COMMITTEE WORKSHOP

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

In the Matter of:	)
	) Docket No.
Preparation of the 2007 Integrated	) 06-IEP-1E
Energy Policy Report	) 06-IEP-1M
	)
Assembly Bill 2021 Implementation -	)
Related to Targets for Statewide	)
Energy Efficiency Savings and	)
Additional Energy Efficiency Cases	)
for the Scenario Project	)
___________________________________	)

CALIFORNIA ENERGY COMMISSION

HEARING ROOM A

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

MONDAY, SEPTEMBER 17, 2007

9:06 A.M.

Reported by:
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Contract No. 150-07-001

COMMISSIONERS PRESENT

Jackalyne Pfannenstiel, Presiding Member

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Suzanne Korosec

Timothy Tutt

STAFF and CONSULTANTS PRESENT

Lorraine White

Kae Lewis

Lana Wong

Michael Jaske

Gary Klein

Mike Messenger

Craig McDonald
Navigant Consulting

ALSO PRESENT

Eric Wanless (via teleconference)
Natural Resources Defense Council

Katherine Wang
Rocky Mountain Institute

Kathy Treleven
Pacific Gas and Electric Company

Bruce McLaughlin
Power and Water Resources Pooling Authority

Andrea Horwatt
Southern California Edison Company

ALSO PRESENT

Michael M. Wheeler
California Public Utilities Commission

Athena Besa
San Diego Gas and Electric Company

Jim Parks
Sacramento Municipal Utility District

Gary L. Ambach
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City of Glendale Water and Power

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Northern California Power Agency

Mike Rufo
Itron

Bitsy Broughton
ICE Energy

I N D E X

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P R O C E E D I N G S

9:06 a.m.

MS. LEWIS: I'm with the CEC Staff. And I'm going to be doing the introductory remarks for this workshop.

Good morning, Commissioners, Staff and all of our guests. We are here today to hold our last workshops on the scenario analysis project and on our AB-2021 analysis.

I'm going to just talk a few minutes about logistics. For those of you who haven't been here before the restrooms are outside of this room, right behind us.

The next thing to mention is that if we have any type of an emergency, please follow Energy Commission Staff out either of these doors and head out the door behind us to the left, and proceed over to Roosevelt Park. That's kitty-corner across the street and wait for the all-clear before we can re-enter the building. Hopefully we won't need that information.

The next thing I want to mention is the workshop structure. We're going to have two presentations in the morning. And immediately following those presentations we'll have a question-and-answer period.

Then we'll have lunch. And then we'll have a large stakeholder discussion, primarily geared to our AB-2021 analysis and results.

Our presentation on the scenario analysis is going to be first, right after I speak. And we'd like you to keep in mind that if you have questions about this particular discussion that it is going to be best for you to bring them up at that time, as some of the individuals involved with that discussion may have to leave the room, and they certainly would like to hear your questions.

Certainly, if you need to submit questions later, up until September 21st, we'll certainly deal with them now. But keep in mind you'll get immediate responses if you ask them right after the presentation.

Okay. Our objectives for today are to do two things. First, to present and discuss the impact of the high efficiency savings, future carbon emission reductions, as a context for our discussion on AB-2021.

And our second objective is to present the final results and the staff recommendations on a statewide utility potential estimates and targets.

Those are our two main objectives. We will be speaking about those and integrating them just a little bit. But please be free to ask questions about how these two impact each other.

Now, I'm going to ask if the Commissioners have any opening remarks before we start the first presentation.

PRESIDING MEMBER PFANNENSTIEL: Thanks, Kae. Yeah, I would like to emphasize as strongly as I possibly can, how important today's workshop is in the final putting-together of the 2005 Integrated Energy Policy Report.

This is both because of the role of energy efficiency in what we are doing in a greenhouse gas world, but also using the scenario work as the framework for our analysis in the IEPR.

The two pieces today will -- they're not the last pieces in the IEPR, but I think that they are the biggest hole in the middle of where we need to go with the IEPR.

So I really encourage full discussion and participation today. It's going to be very valuable for Commissioner Geesman and myself to hear both what the staff has proposed, and any reaction to it. Because we're going to take this information today and we're moving in on the final of the IEPR. And we're going to want to incorporate it readily and we want it to be very strong.

So, thank you, Kae. Commissioner Geesman.

ASSOCIATE MEMBER GEESMAN: I would add to that observation my own sense of satisfaction, having gone through I guess now this is the third IEPR cycle that I've had the pleasure to participate in.

The value of the staff work that we're going to be sorting through today is, I think, the highest value that I've seen in the 03 cycle, the 05 cycle and the 07 cycle. Particularly as it relates to efforts to quantify the ramifications of different policy choices.

And I think, I've got a hundred different questions. I'll only ask a few of them today. While the conclusions to be drawn from several staff papers are not conclusions that I necessarily share, I do think the analytic framework really greatly informs our deliberations.

And I note that in one of the scenario reports submitted with today's materials, the staff laments that over the course of this cycle the staff was not able to elicit more engagement from some of the stakeholders. I certainly hope that those stakeholders that are here today feel encouraged to participate in the discussion.

And I suspect after the 07 cycle is over and the stakeholders have a chance to review the impact the scenarios analysis have had in informing our deliberations, they'll choose to participate more enthusiastically, and hopefully effectively, in the next cycle.

Thank you.

MS. WONG: Good morning; I'm Lana Wong of the Energy Commission, and I will be presenting an overview of higher levels of energy efficiency in the scenario analyses project.

For those of you who have been with us over the last several workshops you're probably already familiar with this, but for those of you who might be here for the first time, the scenario project was designed to develop a greater understanding of the actions believed to be needed to achieve major reductions in greenhouse gases for the electricity sector.

To understand the impact of these actions on generation, fuel use, emissions and costs, and permit some degree of tradeoff comparisons.

Today is our final workshop of the scenario analyses project. Workshops were conducted in January, June, July and August. There's posted project documentation on the internet. There's a main report, appendices, Excel files, three addendum reports. A final report with the three addendum reports merged into the final report is expected to be released later in 2007.

The addendum-3 report contains supplemental analyses for these three main topics: The first, additional energy efficiency is the subject of today's workshop. This analysis came about because the preliminary results showed that despite high levels of EE and renewables, no scenario with actions identified for California met the 1990 goal as described in AB-32.

As a result of that, staff was asked to

look at additional EE, to look at the impact of higher levels of EE, what they would have on generation and on carbon emissions.

The latter two topics, carbon adder impact on dispatch of coal plants, and resource balance and planning reserve margins across the scenarios, can be found in the addendum-3 report. But we are not planning to discuss those topics today because the focus of today's workshop is energy efficiency.

ASSOCIATE MEMBER GEESMAN: Let me jump in there because that raises a number of apprehensions on my part. Are those topics not going to be made the subject of a public workshop? Where do I go with my questions over those other aspects in the reports that were submitted for this workshop?

MS. WONG: If you do have questions, we will certainly answer any questions. We weren't planning on doing a formal presentation, though we certainly will answer questions.

ASSOCIATE MEMBER GEESMAN: Okay.

MS. WONG: And we do have some backup materials. We just were trying to keep the focus of today on energy efficiency, which is why we didn't want to bring too many other topics into the agenda. But certainly if there are questions we will entertain them.

ASSOCIATE MEMBER GEESMAN: Okay.

MS. WONG: Okay, this list is the original nine thematic scenarios that were assessed and presented in our June workshop. The A cases, 3A, 4A and 5A are scenarios where actions are applied to California only. The B versions of the cases 3B, 4B and 5B are where the actions are applied WECC-wide.

In this supplemental analysis on high energy efficiency there are four new scenarios assessed. Case 3D and case 3E are higher levels of EE in California only. Case 5D and 5E contain high EE and high renewables in California only.

With the four additional new scenarios there are a total of 13 thematic scenarios assessed. Case 3A, 3D and 3E contain three levels of high EE in California only. Case 5A, 5D and 5E contain three levels of high energy efficiency and high renewables in California only.

And the results that we present today will focus on the highlighted scenarios.

This slide shows the assumed penetration of EE and renewables. We have EE along the X axis, and renewables along the Y axis. And as you can see, there are essentially four scenarios of EE. You could look at it case 1B, case 3A, case 3D and case 3E provide four different levels of EE.

Staff worked with Navigant Consulting to develop the EE scenarios. And at this time I would like to call Craig McDonald of Navigant consulting to discuss the assumptions that were used to develop these EE scenarios.

MR. McDONALD: Good morning. I'm going to talk this morning a little bit about the assumptions and the reasoning behind these four energy efficiency scenarios that were developed to support the scenarios projects, and some of the issues that we had to address in developing these scenarios.

As Lana pointed out there are basically -- there are four core scenarios for energy efficiency within California, case 1B, which roughly is current practices. It was basically based on IOU procurement filings; approximately the same or current levels of program accomplishments extended through 2020.

I want to point out that this level, current level of program accomplishments, is actually at the upper end of what utilities elsewhere in North America are achieving, or are targeting to achieve. So it's a pretty high lower bound.

And the objectives of the energy efficiency scenarios were basically to set what we refer to as bookcase or bookends, what's on the low end, what's possible on the high end.

Moving up from the current practices we looked at a scenario of aggressive energy efficiency, which was basically achieving the economic potential, excluding the emerging technologies. The emerging technologies we thought had a higher risk in probably under a business-as-usual probably a long time before you would see the technologies fully diffused in the marketplace.

As we were challenged to develop even more aggressive scenarios of energy efficiency we did look to the emerging technologies. And the reason was that there was very little energy efficiency left to tap without spending an awful lot more, without going into the emerging technology. And, in addition, as you see some of the emerging technologies may not be quite as far fielded or as long deployment as sometimes I've thought about emerging technology.

And then we also did an aggressive scenario for the rest of -- balance of WECC in case 3B which really reflected the energy efficiency goals set in the Western Governors Association clean and diversified energy assessment or task force.

MR. TUTT: Craig.

MR. McDONALD: Yes.

MR. TUTT: Excuse me, can you give a definition or an example of emerging technologies?

MR. McDONALD: Yeah, I will cover some of the specific technologies in here. But one of the most significant that was in here as an emerging is advanced power management to reduce the standby losses in all the home appliances and all the computers that are left on in offices. So that turns out to be a fairly significant emerging technology.

Some of the emerging technologies are on the threshold of commercialization like LED in some applications; others are a little more, or longer out there, such as solid state refrigeration.

The scenarios basically cover a range of a factor of two ranging by 2020 from 30,000 gigawatt hours up to 60,000 gigawatt hours for about 10 to 20 percent of the forecasted 2009 sales.

We basically assumed that the forecasts included all the pre-2009 energy efficiency accomplishments and planned acquisitions. So that the programs that were currently funded were included in the forecasts.

In most cases we basically set what the energy efficiency goal in 2020 was; and then basically did a fairly linear ramp rate up to there, In the full deployment of energy of emerging technologies there was actually, the emerging technology piece was actually ramped into by 2016. And so the slower growth rate after 2016 was because it's only growing at the rate of forecasted sales.

To give some context, all these energy efficiency scenarios were pulled off of the 2006 Itron potential study. And we tried to account for both the program acquisitions between 2004 and

2008, as well as some adjustment for recognizing that the potentials would grow from 2016 to 2020.

On the far left is a summary of the Itron. The Itron study defined four levels of energy efficiency; full potential reflects their forecast of what could be achieved under utility implementation programs with incentives set to 100 percent of the incremental cost of the measures.

So this kind of represents under a kind of conventional utility program design the maximum market or achievable potential.

And then the economic potential is basically which is, you can see here, is about another 15,000 gigawatt hours above the full, represents measures that are cost effective, but assuming that they could be installed wherever they are applicable.

The emerging technology is another 12,000 gigawatt hours on top of the economic. And then the technical is about 10,000 gigawatt hours.

So the sum up through the emerging technologies is about 53,000 gigawatt hours of potentials. The significant thing is the -- 11,000 gigawatt hours are being happen, or are in the process of being acquired by utility -- by the

IOUs for the 2004 through 2008 programs. Leaving a remaining potentials of about 44,000.

Now, remembering the previous graph I said, well, the most aggressive scenario was about 60,000. That difference between 44,000 and 60,000 is extrapolating the IOU results to the rest of the state.

ASSOCIATE MEMBER GEESMAN: But if I understand what you said correctly, this is entirely focused on utility programs.

MR. McDONALD: That's right. That's right.

ASSOCIATE MEMBER GEESMAN: Do you have a sense as to --

MR. McDONALD: It's entirely focused -- no, it's entirely focused on the potentials as identified by the utility studies. The full potential is what achievable potentials are.

You know, we were kind of indifferent --

ASSOCIATE MEMBER GEESMAN: Achievable potential with a utility program delivering mechanism.

MR. McDONALD: Right. With a utility program delivery mechanism. You know, in terms of developing the scenarios, we were really pretty indifferent to whether it was implemented through programs or standards. We didn't really get into, you know, how you do it. We said what's the potential possibilities.

And so it's possible. And that's part of the justification for going well beyond full potential to the economics. There's going to be mechanisms that have to go beyond the traditional or the current generation of utility program designs to get up to anywhere near these kind of scenarios.

ASSOCIATE MEMBER GEESMAN: But isn't the Itron study focused on a utility program delivery mechanism?

MR. McDONALD: It is up to the full. Everything above the full is resources they've identified that are available or could be achieved, but are beyond what would normally be acquired through a utility program.

ASSOCIATE MEMBER GEESMAN: It could be achieved means what?

MR. McDONALD: Could be achieved by. That there's a potential. That I could put in a code saying build new buildings that reach 25 percent above Title 24 standards.

ASSOCIATE MEMBER GEESMAN: And that the presumption there would be a 100 percent, or very high percentage penetration rate?

MR. McDONALD: That's right. The economic potential assumes a very high, basically full compliance. So everywhere where it's cost effective it's done. So regardless of physical constraints or whether the person, the owner would never do anything on their own or not.

PRESIDING MEMBER PFANNENSTIEL: Craig, could you help me understand the difference in the left-hand bar between emerging and technical. It seems like emerging technologies are those that would apply. And yet the technical potential seems like that would include the emerging technologies, but there's something beyond that?

MR. McDONALD: Well, the differentiation between technical and everything else is technical is something that's theoretic. We know how to do, we know how to save the energy, but it costs a lot of money.

So, I could reduce, put in say triple glazed windows as something that will save a lot of -- it will save a lot of energy. But it costs a lot. It's a lot more expensive than the cost effectiveness threshold in most of California.

So it's not emerging. That's a well known proven technology. It's just too expensive by current economics.

PRESIDING MEMBER PFANNENSTIEL: So emerging has an assumption that it will be cost effective.

MR. McDONALD: Yes. And we'll get to that, but the general -- the examination of the emerging technologies, a huge uncertainty here. The cost side in particular was really -- let's say mixed. That there wasn't a real rigorous analysis of the potential costs of that. And the assumption is that the costs of the emerging technology is the same average cost as the cost of the economic potentials.

To give some idea of what comprises this energy efficiency resource. Tried to break down the potentials by type of measure or end use. And partly this provides a little perspective on how realistic these are; and maybe some directions about program thoughts.

But one interesting point was that compact fluorescent lights account for about 36 percent of the savings. In the aggressive scenarios it's, you know, just a little over 30 percent in the current practices scenario. So compact fluorescent bulbs is a huge contributor, a major factor.

The second most important end use was actually residential refrigeration in these potential studies. And, you know, I'm drawing from these potential studies. About 60 percent of this residential refrigeration was actually unplugging and discarding of second refrigerators in people's homes.

So, the rest of it was from --

ASSOCIATE MEMBER GEESMAN: So walk me through the compact fluorescent. It remains a very high proportion of savings. But frankly, it doesn't look like it goes up that much. Admittedly the aggregate savings go up a lot, but does that suggest that current practices are accomplishing about as much penetration of the residential lighting sector as an aggressive scenario for compact fluorescents would?

MR. McDONALD: No, no, the current practices are relatively -- sorry, I don't know the -- but less than 50 percent penetration of residential lighting.

What happens is the difference in energy savings between the current practices and most aggressive is a factor of two difference in energy, or in gigawatt hours.

So the fact that percentagewise that's still doubling compact fluorescent bulbs.

ASSOCIATE MEMBER GEESMAN: So your aggressive scenario then would roughly double the penetration of compact fluorescents in the residential sector.

MR. McDONALD: That's correct.

ASSOCIATE MEMBER GEESMAN: And does that represent a saturation level?

MR. McDONALD: It -- yes. Well, it --

ASSOCIATE MEMBER GEESMAN: I mean a lot of people talk about banning incandescent lights.

MR. McDONALD: Yeah, --

ASSOCIATE MEMBER GEESMAN: It doesn't sound as if, unless I believe current saturation is 50 percent, that the aggressive scenario achieves 100 percent.

MR. McDONALD: No, it doesn't achieve 100 percent.

ASSOCIATE MEMBER GEESMAN: What does it achieve?

MR. McDONALD: I don't know the percentage. I would guess -- because there's some bulbs that just don't have enough hours of use that it wouldn't be economic to replace them. So they are that portion isn't captured in the economic potential.

I'll look that up and --

ASSOCIATE MEMBER GEESMAN: Yeah, I'd like to know. And I'd also like to know what you assume current practice has accomplished in terms of penetration of the residential sector.

MR. McDONALD: Okay. Yeah, I don't -- I don't know those offhand.

ASSOCIATE MEMBER GEESMAN: I'm trying to get a sense of how aggressive is aggressive. And how much of a limitation is the utility program delivery mechanism metric. Which you say you've transcended; but which, frankly, I'm a little skeptical, based on having read the Itron study, that you fully transcended.

MR. McDONALD: Okay. Well, I will get those numbers and look at it. But I suspect we're talking about going from less than 50 percent to something on the order of 80 percent, compact bulbs.

ASSOCIATE MEMBER GEESMAN: Okay.

MR. McDONALD: So it's less than an outright ban.

When we were challenged to look at energy efficiency beyond the economic potential, the first thought was well, maybe we should climb up this -- just go into that difference. There's roughly 10,000 gigawatt hours of potential beyond the economic potential. So the difference between the technical and the economic potential.

So, let's see how much more we could get by using those slight, or a little bit higher avoided costs of energy.

In our case 3A the most expensive measure included, had a levelized cost of energy saved of 7.2 cents per kilowatt hour. If we increased it by 2 cents a kilowatt hour, we only got about 2.3 percent more energy efficiency. So, what this is really saying is that basically incremental conservation above the economic potential becomes very expensive very quickly. Or relatively expensive very quickly. Without tapping into the emerging technology.

And this is why, then, we chose, for cases 3D and 3E, to move towards the emerging technology and that as a resource base rather than that gap between the technical and the economic potential.

So we developed two tiers of emerging technology. And, again, the Itron study's emerging technologies was kind of a high-level, quick analysis of emerging technology. It was not a thorough study of it; not to the level of rigor or the other potentials, but it was saying we know there's an emerging technology. What could it -- it was meant to be more of what I would characterize as indicative, as opposed to a planning basis like the rest of the study.

We developed, we took the list of emerging technologies, kind of developed a subjective rating scale based on levelized cost of energy saved, and frankly, our own subjective opinion of how close to commercially acceptable these technologies were.

And so the partial deployment are lower cost measures that we felt, or very close to commercial acceptance. Whereas full deployment either had, were further afield in terms of being commercially available or more expensive.

As one can see from the, in the partial

deployment case, the two most important measures are the 1 watt standby power for home appliances. So this is when you aren't using your appliances how much energy is it consuming. So this is a really significant opportunity of wasted energy to address.

And the second biggest potential was the network computer power management. So this is again kind of analogous in the commercial setting. When I go off to lunch is my computer -- how much power is my computer drawing. Or if I leave, go home at night, is it still plugged in.

And in both of those there's a lot of current work going on. And those are kind of technologies that could defuse into the market relatively quickly.

The full deployment case, really the biggest savings come from a kind of package of measures. Not a single measure like a high efficiency, but a package of measures addressing air conditioning. So it's retro-commissioning; it's high efficiency equipment; it's a number of different measures and requires a comprehensive treatment.

And I think that with the evidence that

I've seen in terms of global warming and increasing air -- impacts on increasing air conditioning demand, these are going to become very important. These are very difficult measures to realize because -- and they're multiple measures so they often require delivery from what are currently different vendors. Maybe it's a contractor and it's a maintenance firm, for example, at the site. But they are going to be very important.

The LED lighting, I think, in the three years since the Itron study was done, has started -- we have started seeing it become commercially available in certain applications. And the technology is moving ahead fairly rapidly.

Unfortunately, in most building technologies diffusion of new technologies can be very slow, a very long timeframe.

MR. TUTT: Excuse me, Craig.

MR. McDONALD: Yeah.

MR. TUTT: You have LED lighting as a commercial measure. Did the Itron study not analyze it as a residential measure?

MR. McDONALD: No, it did not. And, you know, obviously there's other kinds of things happening. There's the GE super efficient incandescent bulb. There's a microwave based light bulbs that are coming out now, too.

So, I mean I think lighting is an area where we can continue to look for, you know, certainly over the next 15 years, some significant improvements.

The cost side, Mr. Geesman, we did presume that all of these potentials would be acquired at an administration or program cost that was represented by utility programs. So that is where we did carry on that kind of utility program paradigm.

So, the costs include the incremental measure costs, as well as an administration costs. And the administrative costs are not -- and I'm sorry, I forget the percentage, they are not a very large percentage of the total costs. So most of this costs is incremental measure costs.

The costs are ranged, depending on the scenarios, from $8 billion to $17 billion. And the only real difference in costs between the -- of energy saved between the case 1B or current practices, and the other cases were really program administrative costs.

The Itron study actually had average cost of energy saved in the economic potential being lower than for the full potential. And the reason is because there's in the economic you get a lot of penetration of low-cost measures that you may only have partial penetration of.

And to some degree, the penetration is driven by how long the measure has been on the market. So you may have a measure like a new high efficiency commercial refrigeration measure, which was introduced only -- or relatively new, so it's on the technology diffusion curve. It may take -- you wouldn't expect to see high penetrations for a long time.

And the economic potential, we don't worry about that rate of diffusion in the market. We just assume that it can be -- it'll get in place.

So some low-cost measures become much more important and drive the average costs down. This is one of the major sources of uncertainty, I think, in using this study. And an issue that needs to be thought through a little bit more, or looked at a little bit more.

To support these types of analyses and

identifying what the potentials are in programs, there are several improvements that I think should be incorporated into next iterations of the potential studies.

One is with the statewide perspective, the potential studies, the Itron study was basically focused on IOUs. As you saw, there's about 20 or so percent of the state is not IOU service area. And the way we did it for the scenarios is we extrapolated IOUs to the publicly owned utilities, rather naively.

So we said Sacramento's surrounded by PG&E, so we can use PG&E results as a percentage of sales to Sacramento. And that's an okay assumption for at one level of planning; and another level you would like to be a little bit more reflect the specific characteristics of that population, or include that as well as what SMUD has done in terms of its own programs.

The point that we discussed a little bit here is basically in developing the scenarios we've used kind of the achievable potentials has been based on current program designs. And it's driven by customer economics.

These economic potentials, these

emerging technologies that we've talked about, are going to require different approaches, because we're talking about having to get to near universal adoptions.

In terms of the forecasting side, I think that there's some issues in terms of the market penetrations where shorter payback options, lock out longer ones kind of give you -- may indicate, lead you -- one to looking at programs that promote a quick payback, as opposed to large savings.

So, because the logic is always choose, it's a greedy algorithm, always choose the quickest payback. And then --

ASSOCIATE MEMBER GEESMAN: It's also utility program focus, and --

MR. McDONALD: Yeah.

ASSOCIATE MEMBER GEESMAN: -- arguably it should be. But I do think that unavoidably there's a certain myopia built into the analysis given that implicit program delivery mechanism.

And I think it would be a lot easier to deal with, were it more openly acknowledged, that this is a focus on a utility program delivery. And evaluating what may be achievable through that particular distribution channel.

Let me give you an example.

MR. McDONALD: Yeah.

ASSOCIATE MEMBER GEESMAN: I don't think you evaluated market mechanisms like white tags.

MR. McDONALD: No, no. Or time of transfer standards or -- I mean, there's a number of things that were not evaluated. And I do think if you came through kind of a no predisposition to our program implementation approach, you may think about the measures a little differently. And that could affect where you go.

ASSOCIATE MEMBER GEESMAN: Thank you.

MR. McDONALD: In the area of costs I think there's a need to attention and costs. The costs tend to reflect current list prices. As we're talking about measures that would 100 percent or 80 percent, 50 percent market adoptions, we should see some mass market economies and cost reductions going in.

And the program and marketing costs, again, are predicated upon a certain model for program implementation.

And, you know, it may be lower or higher. But that, you know, as we move through different kinds of implementations, we're probably going to have a different kind of cost structure.

The load shapes, and I see, is one area where I felt particularly, it was particularly weak. We're using load shapes based on simulations and end uses rather than measures.

So we're saying the savings of replacing an incandescent bulb with a compact fluorescent bulb is the same as the savings for -- the load, shape of compact lighting in these residential sector. That may not be too bad for lighting.

When we talk about measures like air conditioning controls, that's a lot more problematic. And I even think that even residential lighting, the load shapes, seem to show a lot of energy being used during summer days that -- so I think there's some -- we are at considerable risk of overstating the peak savings under these measures.

And then a bane of this industry and we always suffer with this problem, and I'm not sure I have any great solutions for this, is the timeliness. It is a little unsatisfactory standing here near the end of 2007 and talking about data that's based from a study in 2004 that's really based on 2001 to 2003 program accomplishments. And saying, this is the basis for predicting what we can do over the next ten years.

PRESIDING MEMBER PFANNENSTIEL: We share that frustration.

MS. WONG: Thank you, Craig. So this slide just summarizes the four scenarios of EE that Craig just discussed. This gives some background on the methodology used in the scenario analysis. We used Global Energy Decision software product called Market Analytics to simulate the entire western interconnect.

The EE assumptions are one of the inputs into the model. In the supplemental analysis we revised the EE assumptions in the model. We re-ran the model and produced a series of results. The next few slides will go into the results of the simulation.

This slide shows the composition of generation to meet California load in 2020. The cases appear along the X axis and we've got generation along the Y axis. And the results are not too surprising that EE displaces natural gas generation in California; and also reduces imports.

This shows the natural gas consumption in California for several of the cases. And with the lower natural gas generation the result is no lower natural gas consumption.

Case 5E with high energy efficiency with the full emerging technologies assumed in that case and high renewables in California shows the lowest natural gas consumption in California.

This slide shows California instate carbon dioxide production through time by scenario. And I'd like to just make a few clarifying points about this slide. The scenarios analysis reports carbon dioxide emissions; and some of our previous documentation and also I may refer to it as carbon, we are specifically referring to carbon dioxide, because that is what we are capturing in the scenario analysis.

Also the unit of measurement in the scenario analysis is in short tons. So the Y axis on this chart is carbon in million short tons, which is 2000 pounds per ton. Another common unit of measurement is metric ton which is about 2204 pounds per ton. And so conversion may be necessary to compare other results to the scenarios analysis.

ASSOCIATE MEMBER GEESMAN: Now most of the climate change world seems to have centered on metric tons, has it not?

MS. WONG: I believe that's correct in that ARB and even the Energy Commission Staff, their inventory level is produced in metric ton. But in the scenarios analysis all of the reporting was done in short tons. And we did not convert that to metric ton.

ASSOCIATE MEMBER GEESMAN: In terms of what we show in the IEPR report, should we make that conversion so that it's easier for people to understand the comparability with efforts underway at the ARB and elsewhere?

MS. WONG: That could be something that can be considered to make that conversion. Otherwise, --

ASSOCIATE MEMBER GEESMAN: Is there any --

MS. WONG: -- we need to clearly --

ASSOCIATE MEMBER GEESMAN: Is there any intrinsic value in doing it on a short-ton basis versus a metric-ton basis? I recognize you did all your work on short tons, but --

MS. WONG: Right. Intrinsic value, no, other than that's what the model produced as a result. So without having to convert this is what we presented.

ASSOCIATE MEMBER GEESMAN: That's fine. I'm just trying to determine how going forward we could best make our work most useful to the general reader.

MS. WONG: Right. And without confusing people.

ASSOCIATE MEMBER GEESMAN: Correct. I do have a couple questions about this graph. One, I note in the text of the backup reports you've been very careful to caveat that this box, the lower right-hand side of the graph, is a proportionate contribution to the AB-32 20 percent reduction goal, or rather the AB-32 1990 goal, and it is not to be misinterpreted as a goal for the electric sector.

MS. WONG: Correct.

ASSOCIATE MEMBER GEESMAN: That message doesn't seem to have ever been conveyed to whoever comes up with these graphs. Is there some reason for that?

MS. WONG: I'm not sure I understand

that question in the sense that I worked on this graph and, you know, the verbiage that you're describing that I look at it as ARB has not stated that it will require each sector to reduce carbon emissions to 1990 levels.

It may require more or less of the electricity sector. So I think we understand that. So I'm not sure --

ASSOCIATE MEMBER GEESMAN: I'm not certain you do. And the concern I have is that for those who would like to see the utility sector's contribution capped, this is a very satisfying way to display it. And for that very reason the Commission has tried to be emphatic, as has the ARB, that since there are many who think that the electricity sector ought to contribute a disproportionate amount to the AB-32 goal, you should not be expressing these types of numbers as an AB-32 goal.

It's simply a proportionate contribution. I think as people read the overall IEPR document, you'll see how difficult it is likely to be to expect a proportionate contribution from certain sectors, particularly the land use sector. As a consequence it may be reasonable for the ARB a year or two down the road to expect a disproportionate contribution from the electric sector.

Our analysis should be a lot more value neutral in these graphs than I think you presented it.

MS. WONG: Are you suggesting that we should not show what we're calling a preliminary AB-32 carbon goal?

ASSOCIATE MEMBER GEESMAN: I am absolutely suggesting that because it is not a preliminary AB-32 carbon reduction goal. It is a proportionate contribution from the electric sector to the overall AB-32 --

MS. WONG: Right.

ASSOCIATE MEMBER GEESMAN: -- goals.

MS. WONG: Right, that's right.

MR. TUTT: In this case, John, it's a proportionate contribution from the instate electric sector.

ASSOCIATE MEMBER GEESMAN: Well, I want to get to that a little bit later.

MS. WONG: That's correct. Yes.

ASSOCIATE MEMBER GEESMAN: We've got another graph coming up. My other area of questioning, though, is this is the first time I believe I've seen the historic numbers. And I wonder, you've shown 03, 04, 05, I'm presuming you've got similar numbers pre-2003?

MS. WONG: Yes, we do.

ASSOCIATE MEMBER GEESMAN: And do they jump around as much as the 03, 04, 05 numbers?

MS. WONG: Yes, they can. And it's very much driven by hydro in that particular year.

ASSOCIATE MEMBER GEESMAN: So when I'm looking over to the right side of the graph, how much significance should I attach to what appear to be pretty small annual differences in comparison to what we've seen historically?

MS. WONG: Well, the one thing to keep in mind when you're looking at the historical data, there is volatility in there. As I mentioned, the hydro has a significant impact on the carbon emissions. And in our forecast, the forecast is a deterministic forecast without any volatility.

So then the question becomes how do you implement AB-32 and account for volatility in whatever policies are developed. And I don't have the answer to that, but I think that looking at the historical data that brings that question to the fore.

ASSOCIATE MEMBER GEESMAN: And I do think the ARB is going to have to resolve that. And I think you've taken a reasonable approach here, but in terms of distinguishing between one scenario and another I'm left with a degree of uncertainty as to what's a significant difference between scenarios and what's an insignificant difference.

And that gets larger when we get to the cost data.

MS. WONG: Right.

ASSOCIATE MEMBER GEESMAN: So just food for thought subsequently.

MS. WONG: Right.

ASSOCIATE MEMBER GEESMAN: I see Dr. Jaske moving toward the microphone.

DR. JASKE: For the record, Mike Jaske, Energy Commission Staff. Commissioner Geesman, you might remember that the first so-called addendum report for the July 9th workshop actually presented the results of the sensitivity studies of which there were two variables, really, that were the dominant values that were -- variables that were investigated. One was fuel price, high and low, and one was hydro, high and low.

And there was a quite large variation on the GHG result relative to high, base or low hydro. And we made some pains to describe in the narrative of that report that outcome and the need for that variation in hydro, completely uncontrollable by any policymaker, to be reflected in whatever GHG implementation regime might be adopted.

And I'm recalling offhand, but it's numbers that are on the order of 10, 15 percent above or below the sort of baseline nominal value. So it is a significant factor that needs to be taken into account.

ASSOCIATE MEMBER GEESMAN: What role does weather adjustment play in any of these numbers? I presume our loads are all weather-normalized, at least for the California piece of the load?

DR. JASKE: Yes, that's correct.

ASSOCIATE MEMBER GEESMAN: And what about the other western states?

DR. JASKE: As far as I know they're also normalized.

ASSOCIATE MEMBER GEESMAN: And how did we go about normalizing those out-of-California loads?

DR. JASKE: That's a standard part of what Global Energy does when --

ASSOCIATE MEMBER GEESMAN: Okay.

DR. JASKE: -- they make their forecast. So they conform basically to a one-in-two type --

ASSOCIATE MEMBER GEESMAN: Okay.

DR. JASKE: -- baseline approach.

ASSOCIATE MEMBER GEESMAN: Thanks.

MS. WONG: So just to add, I heard Commissioner Geesman's comments, but our intent of providing the 1990 level comparison was by no means intended to confuse the reader, the audience, but really to provide a frame of reference for the results of the scenario analysis.

And the next slide shows California carbon responsibility. And what we define California carbon responsibility to be is instate generation, remote generation located outside of California, that is either owned by California utilities or under long-term contract to California utilities, and net imports or spot purchases.

ASSOCIATE MEMBER GEESMAN: Now, this is the real number, isn't it? Shouldn't I just throw that other graph away?

MS. WONG: Well, the reason why we showed both graphs is because as our understanding ARB is still in the process of implementing AB-32, and they don't have a final policy in place. So we've just chosen to show both charts as information.

ASSOCIATE MEMBER GEESMAN: So you think it's within the realm of possibility that the ARB could adopt a policy implementing AB-32 which ignored all of these out-of-state emissions associated with California electric loads?

PRESIDING MEMBER PFANNENSTIEL: In fact, they cannot. AB-32 specifies that they need to consider --

ASSOCIATE MEMBER GEESMAN: Are you a lawyer, Madam Chair?

PRESIDING MEMBER PFANNENSTIEL: No, but I did read the law.

ASSOCIATE MEMBER GEESMAN: And I read the law, as well. And I don't know why we have spent as much time, these many months, as we have on the first graph in light of the markedly different message coming from the second graph.

MS. WONG: Well, it's just to provide information to the reader.

ASSOCIATE MEMBER GEESMAN: Misleading information. Unlawful information. Implausible information. And message content which says, this is going to be really really really hard to meet our targets in the electric sector.

Whereas I look at the second graph and I said, wow, we're going to be able to accomplish a disproportionately large contribution from the electric sector. Pretty different message content.

MS. WONG: Well, that is true that the information on these graphs show that there are many more scenarios that achieve this preliminary AB-32 carbon goal.

Okay. On to costs. So this table shows total system costs calculated using net present value. We used a discount rate of 8.6 percent; and the data shown in constant 2006 billion dollars.

And what these results show is that EE saves between $0.75 to $1.25 billion in savings for California. And EE and renewables, and this is case 5A, 5D and 5E, have higher system costs for California in the range of 8.25 to 8.75 billion more for California.

This chart shows levelized system cost on a per-unit basis in 2006 dollars per megawatt hour. We have cases across the X axis and the levelized system costs on a per-unit basis along the Y axis. And for each case we have California, rest of WECC and total WECC.

The results were levelized over the period 2009 to 2020 using an 8.6 percent discount rate.

And what this chart shows, the candy-stripe is California, it shows that on a per-unit basis EE costs go up as higher levels of EE are assumed. And note that the calculation is based on total system cost divided by load, adjusted by demand side resources of EE and PV rooftop solar.

And so what that means in the way that we calculated this, that the denominator is smaller in the EE cases.

ASSOCIATE MEMBER GEESMAN: I had a question. This may be more for Dr. Jaske. But it relates to the blue columns, the rest of WECC.

Mike, it was my impression from reading your backup reports that you were adding, if I recall correctly, in terms of new facilities, 2100 megawatts of existing coal plants under construction; and I believe 6300 of generic coal.

And I would presume those load generation cost resources account for a fair amount of stability in the rest-of-WECC cost column. Would that be correct?

DR. JASKE: I think that the stability in the cost column really has to do with the relatively limited number of resources that are being added. The numbers you're citing, I think, are the coal additions in the more conventionally oriented cases. And by the time you get all the way over to, you know, a case 5B, which we don't see here, we're down to something like 4000 megawatts out of 50,000 existing.

So it's not a very large addition. So it's the, I think the bulk of cost stability is really traced back to the existing plant.

ASSOCIATE MEMBER GEESMAN: But if I replace the 6300 generic megawatts of coal, or some more significant portion of them, with gas the two columns would be closer, would they not?

DR. JASKE: Yes, they would be a little closer, that's correct.

ASSOCIATE MEMBER GEESMAN: How did you determine generation type for new additions?

DR. JASKE: In the case 1, which is not shown on this chart but it has been shown in other charts, which is the almost sort of fully conventional buildout, it reflects the kind of additions that in recent years utilities around the west have been making.

So it is significantly influenced by gas combined-cycle where energy is needed, but has still some coal in this maybe 6000 or 7000 megawatt total that you mentioned earlier, in the locations where coal has traditionally been built.

ASSOCIATE MEMBER GEESMAN: if I went back 15 years or the period of this analysis, how many megawatts of new coal would I find around the west?

DR. JASKE: I don't think I have that number at my fingertips. Do you want to go back to a particular year and we can provide that number to the record?

ASSOCIATE MEMBER GEESMAN: Well, I think this is, if I calculate correctly, a 13- or 14-

year period of analysis, I would suggest going back 13 or 14 years and determining, just for a plausibility check, what magnitude of new coal resources have been added during that period of time.

And then I would also -- well, I'd ask you, was there a native load requirement associated with that 6300 megawatts of new generic coal additions?

DR. JASKE: Yes. The general process for building out the resource plans is to be roughly balancing the various control areas or trans-area loads with generation.

So we did not have huge changes in transmission system or transfer capacity between the zones that would, you know, allow -- would reflect some large difference in the way the system does operate.

ASSOCIATE MEMBER GEESMAN: So it's your belief that you have fully captured, then, the effect of SB-1368 and the parallel restrictions in the State of Washington toward investment or long-term contracting with new coal plants?

DR. JASKE: Well, we were not assessing the direct implications of SB-1368 as part of this project.

ASSOCIATE MEMBER GEESMAN: No, I understand that. I'm just trying to determine if this is a contrary assumption.

DR. JASKE: I think that we have a relatively limited amount of new coal being added in really any of these areas. And as we have discussed in earlier workshops, and was our motivation for a little piece of work on the carbon adder, the real question in our minds about the GHG results of this project are the insensitivity of existing coal to the scenario buildouts.

And therefore, as has been discussed at several prior workshops, the issue of designing some program to address existing coal plant operation dispatch.

ASSOCIATE MEMBER GEESMAN: Yeah, I think, though, a general sense I gather from the scenarios is that you may have not fully captured the impact of natural gas, either as a CO2 reduction strategy, or as likely a bigger cost driver in the rest of WECC.

But I'll look forward to your historical data on coal additions to better assess how plausible the 6300 megawatt number is.

MS. WONG: So, comparing the California levelized system costs on a per-unit basis to case 1B, just to note that consumption is lower with these high levels of EE so that the product of cost per unit times usage is lower total system costs in dollars. Which we saw earlier on the slide where I showed total system costs on an NPB basis.

This table shows a summary of annual system costs and carbon dioxide in 2020. The cases appear across the rows and there are columns for California, rest of WECC and total WECC. And for each of these headings we've calculated 2020 system costs and 2020 carbon emissions.

So comparing the annual total system costs and carbon dioxide in 2020 to case 1B, high EE results in lower total system cost and lower carbon dioxide in California compared to case 1B. And high EE and high renewables have higher total system costs in California. But the carbon dioxide reductions are the greatest in these scenarios. So there is a tradeoff between cost and carbon dioxide reductions.

This table attempts to measure the cost

effectiveness of the strategies by assessing the differences from case 1B. So the cases appear in the rows and across the top, first column contains the 2020 system cost difference for each case compared to case 1B. And the 2020 carbon emission difference compared to case 1B.

And then the 2020 reduction in dollars per ton was a calculation based on the 2020 system cost difference divided by the 2020 carbon emission difference.

And then the next column we have 2020 California responsibility carbon emission differences for each case compared to case 1B. And then the next column we also calculate the 2020 reduction in dollars per ton, using the 2020 system cost difference divided by the California carbon responsibility emission difference.

And the way to read this, the information in this table, is we've provided both metrics again as information; but you can decide which column to look at for the 2020 reduction in dollars per ton. And the way to look at this is comparing the cases against one another.

So what this information shows is that the cost per unit of GHG reduction from alternative levels of EE is relatively constant, and is negative. And we've also included case 4A with high renewables in California only, as a frame of reference. And this shows that it's more costly per GHG reduced, and is positive.

And then cases 5A, 5D and 5E blend the reduced expenditures for electricity customers with the increased outlay for renewables.

So that concludes the presentation of the results. We do have some caveats. And this slide lists the limitations of the results.

First, the emerging technologies that are assumed in these high energy efficiency cases are more speculative than known technologies. And their costs may be higher.

And in Craig McDonald's presentation he also mentioned that costs are likely to be 28 percent higher if using a constant dollar per kilowatt hour versus a constant dollars per kilowatt. That was assumed in the assumptions.

And Craig also mentioned the economic potential gets cheaper in the Itron study; and should that not hold true, costs are likely to be higher.

The study assumes that all cost

effective energy efficiency potential identified in the Itron 2006 potential study is actually achievable. And most potential studies suggest that not all potential is achievable.

And EE program design is the critical component of whether the potential is achievable. And this study did not look at specific program designs.

That concludes my presentation. Are there any questions?

MR. TUTT: I just have a couple of questions; if you want to turn back to the graph, the chart that shows all the cases with renewables and energy efficiency on the two axes. One for the -- that one, yes.

So, I understand that we have added in this scenario analysis cases 3D and 3E, which include additional energy efficiency.

MS. WONG: Correct.

MR. TUTT: But we have not extended those additional energy efficiency measures to the rest of the WECC, is that correct?

MS. WONG: That is correct. That these are California only cases.

MR. TUTT: And we also did not do a

scenario which perhaps looked at expanding or extending the amount of renewables that we had been assuming in case 4A. No similar sort of extension of the renewables side of the house was done in this analysis?

MS. WONG: Yes, that is correct, that in cases 5D and 5E the renewables level is the same as found in case 4A.

MR. TUTT: Thank you.

MS. WONG: Any other questions?

PRESIDING MEMBER PFANNENSTIEL: Now, I think we will hear from the public, from the stakeholders who are here. We encourage and we're looking for comments. If anybody has comments, please just come up to the podium in the front.

Well, hearing none, I guess we assume that the material that has been presented is either without objection, or sort of in accord with your thinking.

I understand that there is an opportunity for further written comments. But if there are presumably any burning issues you would raise them now.

Seeing no public participation, why don't we move then on to the AB-2021 report. Gary or Mike.

(Pause.)

MR. KLEIN: Good morning, Commissioners. My name is Gary Klein; I'm staff here at the Energy Commission.

MR. WANLESS: Eric Wanless. Regarding the --

PRESIDING MEMBER PFANNENSTIEL: I'm sorry? Is there a question on the phone?

MS. SPEAKER: I think Eric Wanless from NRDC --

MR. WANLESS: We're having some troubles with the teleconference. I had some comments on the scenario analysis addendum, if that's appropriate now.

PRESIDING MEMBER PFANNENSTIEL: Yes, it is. Thank you, Eric. I'm sorry that we kind of couldn't get you on before.

MR. WANLESS: Oh, that's all right. Sorry I'm not there in person today, I was hoping to make it, but just didn't have the ability to.

I had a couple questions on some of Craig McDonald's slides. The first one is with slide 6 presented there, I think there may be a typo in the full developed versus partially developed emerging technology. I just wanted to double check that.

The slide, I think, shows that the full development of emerging technology has less total gigawatt hours -- than the commercial development?

PRESIDING MEMBER PFANNENSTIEL: Craig, do you want to find a microphone and respond.

MR. McDONALD: Those numbers are additive. The partial is 6900 gigawatt hours; then the full is an additional 5400 gigawatt hours. So the total is 12,400 gigawatt hours.

MR. WANLESS: Okay, thanks. And then my other quick question for you, Craig, is I'm assuming the 8.6 discount rate reflects the 3 percent real discount rate used by the Commission, and that incorporates then in inflation value, is that correct?

MR. McDONALD: I assume, I don't -- this is the discount rate that was used throughout the scenarios analysis, and I'm not real sure of the derivation of that.

MR. WANLESS: Okay. The other comments I have on the presentation are somewhat in line with some of the remarks that Commissioner Geesman made.

First, I think in terms of the couple graphs that show the emissions profile of the different scenarios, NRDC, we caution the Commission against including the result of the scenario analysis to show that possible AB-32 goals in the electricity sector are not achieved in a lot of the cases. Where if you look at it depending on how you interpret a proportional goal, whether it's carbon responsibility or instate generation, you get a very different answer. And I just wanted to flag that again.

I know that Commissioner Geesman did bring that up. And that's something we want to caution, again.

The other thing I want to comment on has to do with the calculation of WECC-wide systems costs. And I know that I've been talking about this throughout the scenario analysis workshops, but we believe that in terms of presenting especially the energy efficiency scenarios, and I know that you guys did a good job today of making a caveat that energy efficiency netted out, and that's why the levelized system cost is higher in the high energy efficiency cases, but I think in terms of somebody reading this, these values in the final IEPR, I'd like to suggest that energy efficiency is not netted out if it's going to be incorporated into the report.

And indeed, be treated as a supply side resource, and the primary resource in California's loading order. And I think that the contributions that it makes as a supply side resource need to be factored in in the levelized system cost calculation.

And then I have the two comments on the carbon adder sort of stuff and some of the dollars per ton in terms of carbon stuff.

First, I think I've said this several times over the course of the scenario analysis workshops. There's always been a bullet point that says something to the effect of reducing greenhouse gas emissions does not necessarily, or reducing greenhouse gas emissions leads to increased costs.

And that's not true, particularly with energy efficiency. Producing greenhouse gas emissions does not necessarily lead to increased costs. And I just want to caution again the staff, that statement being in there. I think it's somewhat misleading.

In terms of the presentation of the values in terms of dollars per tons of emission savings, I think for that load value to be useful for folks reading the final IEPR, I think it needs to be calculated somewhat differently.

Right now I believe it's calculated in 2020 difference in cost versus 2020 difference in emissions. And I think that to make it more applicable in terms of comparing options like, you know, comparing to white tags or carbon offsets, I think it's important that the calculation be total cumulative emissions reduction over total cumulative costs, to give a better sense of what the costs are or benefits are for reducing greenhouse gases.

And I believe that's all of the comments I have for this section. Thank you.

ASSOCIATE MEMBER GEESMAN: Eric, this is John Geesman. I would encourage you to follow up on trying to track down the discount rate used here, because I don't think that it is in any way parallel to the social discount rate that the Energy Commission has traditionally used in its standard-setting process.

I think instead it is more likely to be

a cost-of-capital-derived financial discount rate, more akin to that used by the CPUC in evaluating utility programs.

And to the extent to which you can further flesh that out in your written comments, I think that would be well appreciated.

MR. WANLESS: Okay, thank you, Commissioner.

PRESIDING MEMBER PFANNENSTIEL: Thank you, Eric. Are there other questions on the phone?

MS. SPEAKER: I'm showing none.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Shall we go back to Gary Klein then.

MR. KLEIN: Commissioners, we need a minute to put something else on the computer. So, bear with us a second.

PRESIDING MEMBER PFANNENSTIEL: Okay. Take a minute.

(Pause.)

MR. KLEIN: We are now ready when you are.

PRESIDING MEMBER PFANNENSTIEL: Thanks, Gary, go ahead.

MR. KLEIN: Thank you. I'm responsible

today for presenting the first part of our staff results on this report, AB-2021, findings and recommendations. And as the agenda shows, we're going to have a panel later. And we actually have some POUs, publicly owned utilities, to give us some comments directly as part of staff's presentation.

We covered logistics before, at least format the objectives from our point of view today, present the overview of the staff report, discuss efficiency targets and the evaluation criteria, present staff's recommendations, obtain stakeholders' perspectives, and identify some next steps.

We've presented here, just for reminding everyone that there's intent language from AB-2021. It's the intent that all load-serving entities procure all cost effective efficiency measures with the idea of reducing electricity consumption by 10 percent over the next ten years. It doesn't say which ten years; it's a rolling ten years as best I can tell, but it says the next ten.

Each publicly owned electric utility shall first acquire all energy efficiency and demand reduction resources that are cost effective, reliable and feasible. And the energy savings achieved through the enactment of this Act are an essential component of the state plan to meet the Governor's greenhouse gas reduction targets.

2021's requirements. Publicly owned utilities, the POUs, I'll use that acronym a lot today, identify each achievable cost effective efficiency potential every three years and establish annual targets based on that potential for a ten-year period.

We combined the POU targets with IOU targets into a statewide estimate of all potentially achievable electricity and natural gas savings, and establish annual targets over a ten-year period.

The POUs report annually on their sources of funding, cost effectiveness and verified efficiency in demand reductions results from independent evaluations. And the Energy Commission compares the annual targets to actual energy savings and demand reductions in the IEPR and makes recommendations for improvements as needed.

The schedule, we're in the middle of this right now. On or before June 1st the POUs will identify potential and established targets, and they have done so; and that forms a large basis of this report.

The PUC provides the IOU potential savings and annual target information to the Energy Commission, and we have that.

And by November -- I think that date may have slipped a little bit -- but we're going to provide a statewide potential estimate and establish annual efficiency targets in a public process that is based, at least in part, on the most recent IOU and POU targets. And repeat every three years as needed.

Methodology, we're going to cover methodology; key results, evaluation criteria, policy options, recommendations.

Methodology. As we've mentioned in earlier workshops for this report, for the POUs we received potential studies for each utility. They include baseline electricity consumption and peak demand, technical and economic potential and feasible targets.

We, in fact, also received a natural gas forecast and potential from the one POU that's participating, Palo Alto, that's also a natural gas utility.

For the IOUs, potential studies based on the Itron technical potential study for technical and economic potential. The goals for 2004 through '13 came from the PUC's decision. And we reduced the remaining potential based on the 2004 through 2008 programs. Our forecasters indicated that we'd incorporated those values because, as committed in our forecast, so we subtracted them from remaining potential under the assumption they were acquired in some fashion.

We had some challenges with our data. It was hard for us to fully understand the appropriateness of the translation of the nearby IOU and technical and economic potential to the POUs. That was addressed in an earlier workshop when RMI was presenting their methodology.

The translation isn't perfect. And we're admitting that. And we understand that it's not perfect. It was a good first-order estimate.

The avoided energy costs were not readily documented in the papers that were presented to us. It's hard to tell which utilities used what costs. It's not done quite the same way as the PUC and the IOUs vet those costs. And there's some uncertainty there. And there were very clearly different methods for determining feasible targets.

We actually interviewed all of the 13 largest POUs to go over their numbers in the report, just to make sure we understood them right. And those discussions were very illuminating. People put down numbers and, I don't like the way those numbers look when we gave it back to them. And so that changed some of what -- that discussion was very valuable.

And what we learned is that every utility did a slightly different method. Many used what RMI recommended, which was pick 50 percent of your potential and that's what you're aiming for.

Energy consumption and peak demand forecasts. We looked at electricity peak demand and natural gas, and we used the current staff draft, July 2007 staff draft forecast for that purpose. And we included the energy savings, as I mentioned before, from the 2004 to 2008 IOU programs.

No such determination was made for the POUs. They were not considered committed in our forecast as described by our forecasters.

And one other point to mention, there are other utilities in the state. The report in chapter 2, I believe, shows that. It's a table. We found that 10 percent of the state's electricity is supplied by other folks than the IOUs or POUs participating this year. It looks to us that a few of those entities are publicly owned utilities and we should figure out how to incorporate them in the next round of this AB-2021 cycle.

Some of our key results. This graph shows 2006 electricity consumption in California. It shows the percentages by each of the major largest utilities. And the short version of all this is that the 13 largest POUs represent 93 percent of the total POU consumption.

And there's about, let's see, there's about 40, so 27 more that were included in this report representing the other 7 percent.

You'll now understand why we focused on the biggest 13 for our interviews and not the last 45 -- 27 of them -- time was important there. Not that they're not important utilities; it's just we had to get the big handle on the numbers.

More key results. This is energy savings for 2005, as reported either by the IOUs or the POUs. And the largest 13 POUs represent 96 percent of the total POU savings.

You'll notice that there's a bigger amount of savings from the IOUs than there was as proportion of the energy consumption. And in large part the IOUs have been working on this as a concerted effort for a longer period of time. Certainly the larger ones.

Okay. More key results. This set of tables that are coming up now are presented in the report slightly differently. For summation purposes for today I reorganized the numbers. But it's all from the report, chapter 3.

We're looking at savings by 2016, forecasted consumption by 2016, and various percentages. The key is that, let's go down to the bottom line here, a couple of them. The percent of the 2016 forecast that would be represented by efficiency savings would be on the order of 8 to 9.5 percent.

If you combined the utilities it looked

like the proposals that we were working with, the basecases, was about 9.3 percent of the forecasted consumption. Close to the 10 percent reduction target that was described by the legislation.

PRESIDING MEMBER PFANNENSTIEL: So, Gary, this says that all of the growth from the investor-owned utilities will be offset by energy efficiency savings?

MR. KLEIN: The way we did our calc that is correct. That is correct. That's what it says. Whether that's true or not --

PRESIDING MEMBER PFANNENSTIEL: Yeah, I know it says --

MR. KLEIN: -- is a whole different --

PRESIDING MEMBER PFANNENSTIEL: -- I hadn't realized that the plan, that the forecasts would show that all of them -- I thought I remembered that when the PUC issued its last, not the prior decisions on energy efficiency, they were hoping to offset 50 percent of the growth in kilowatt hour sales with energy efficiency. And now we're saying 100 percent?

MR. KLEIN: That's correct. There's some discrepancy -- there needs to be some sorting out between various forecasts at various times.

We tried to be extremely consistent with our dataset here. So everything is from the most current forecast, and all numbers are compared to that.

MR. TUTT: Gary.

MR. KLEIN: Yes.

MR. TUTT: If you go back to the earlier presentation from the scenarios analysis, case 1B was supposed to be current conditions. And it showed 30,000 gigawatt hours of energy efficiency by 2020. How does that compare to what you have here?

MR. KLEIN: Can I hold that question for a little bit later? We actually plan to address that today. And I think that there may be reason for some other folks in that discussion.

Percent of economic potential. It's in the 60 to 70 percent range.

Notice that we've described additional economic potential is available from emerging technologies. Our treatment of emerging technologies was not dissimilar to what was done in the scenarios project. It was sort of an additional bucket, if you will, that you could tap into assuming it's available.

And so we looked at the potential, economic potential as only those things that are considered available and do-able today. The economic potential from emerging technology is additional, and we'll show how that comes in later on.

MR. TUTT: So, Gary, one last question. Is this the same economic potential that was shown in Craig's 2006 Itron slides, then?

MR. KLEIN: It is. We were absolutely consistent in that regard. We spent a lot of time trying to make sure that we would have this question answered honestly and easily today. It's not an easy one to have done. We did spend some time on it.

Peak demand. Percent of growth, 50 to 70, 80 percent, depending on which type of utility you are. Percent of economic potential, 60 to 95 percent. Okay.

Natural gas, percent of growth -- yes, well, typically 68 percent for the whole state. Palo Alto is the only utility reporting as a POU, and their savings is significantly bigger than their growth. And that's nice, and it's going to save a little bit of gas. But it's such a small number that it doesn't impact the totals for the state.

ASSOCIATE MEMBER GEESMAN: Why do they show such a small percentage of economic potential in Palo Alto. And what does that suggest about the overall numbers?

MR. KLEIN: Palo Alto could, in principle, go after significantly more savings.

ASSOCIATE MEMBER GEESMAN: Because their gas is more expensive than it is elsewhere in the state?

MR. KLEIN: I don't believe that to be true.

ASSOCIATE MEMBER GEESMAN: Because they've achieved less savings historically than elsewhere in the state?

MR. KLEIN: I'm not certain that that was what I would expect. I do not know.

ASSOCIATE MEMBER GEESMAN: Is it possible that perhaps there's a flaw in the metric of economic potential?

MR. KLEIN: Absolutely. I don't have great answers for that, but I'm sure that there's things that are not exactly considered the same by different organizations that consider them.

Evaluation criteria. We established four basic evaluation criteria for looking at the options we considered as staff. Policy context, plausibility, motivation and margin for error.

The policy context includes things -- sorry, question?

ASSOCIATE MEMBER GEESMAN: Go back to your other slide, Gary.

MR. KLEIN: Absolutely.

ASSOCIATE MEMBER GEESMAN: I was a little unclear on your last answer. Do you believe that there's any more reason to think that the IOU economic potential metric is accurate, or the Palo Alto economic potential metric?

Should we place more confidence in one over the other? And if so, why?

MR. KLEIN: I can't say to place more confidence in one or the other. I'd like to cover that later on when we get to discussion.

ASSOCIATE MEMBER GEESMAN: Okay.

MR. KLEIN: It's an interesting point that I think we have to consider.

The policy context, energy action plans, the IEPRs of various vintages, the various legislative things, Governor's letters, that sort of stuff, directives, all establish the policy context for achieving the goals we're talking about.

Plausibility, utilities' commitment, the infrastructure and the resources, we'll come to that a little bit later as to how we evaluated each of the largest 13 POUs.

Motivation. We're looking for goals that are big enough to inspire, yet small enough to achieve. There's a tension between too big a goal and too small a goal, and you've got to make sure you get those to keep playing. So, interesting problem in motivation.

And then margin for error. I think one of the things that we, as an institution, have to assess is our policy robust in the absence of a perfect set of predictions. As was discussed earlier today, hydro makes a big difference in the cost of things and the acquisition of greenhouse gas savings. Do we have a margin for error in our efficiency goals to help accommodate that. A question we try to answer.

We considered four statewide goals. And I describe statewide intentionally because we're actually also now looking at individual POU goals.

Option one, use the Public Utilities Commission targets for the IOUs and the feasible targets for the POUs. And for analytical purposes, we kept the 2014 to 2016 goals for the IOUs equal to the 2013 incremental savings in the CPUC decision. It's an analytical method; it is not a decision on our part, or recommendation as a target for the Commissioners.

ASSOCIATE MEMBER GEESMAN: I don't understand what that means. And I'm sorry, this is not a field I'm particularly familiar with, but what does keeping the 2014-2016 goals equal to the 2013 incremental savings mean?

MR. KLEIN: The PUC established targets, Commissioner, for each utility for each year from 2004 through 2013.

ASSOCIATE MEMBER GEESMAN: Yeah.

MR. KLEIN: Beyond 2013 there is no decision from the PUC at this point. So for purposes of our analysis we kept 2014 equal to whatever the number was for 2013.

ASSOCIATE MEMBER GEESMAN: The number being --

MR. KLEIN: Savings. The savings estimate. Whether --

ASSOCIATE MEMBER GEESMAN: As a percentage or as a gross amount?

MR. KLEIN: A gross amount.

ASSOCIATE MEMBER GEESMAN: Okay.

MR. KLEIN: Just a simple straight line; keep it flat for easy to calculate and show purposes.

ASSOCIATE MEMBER GEESMAN: Okay.

MR. KLEIN: What the goals will ultimately be has yet to be determined. And we figured that was as straightforward a method as any to use.

Option two, 80 percent economic potential. And this does not include the economic potential from emerging technologies.

Option three, full economic potential, again not including emerging technology.

And then option four, a 10 percent consumption reduction. It's part of the legislative intent for electricity. We all evaluated it also for peak demand and natural gas, even though the legislation didn't specifically say so. It's a nice reference point to look at.

We've aggregated all of the numbers from all of the utilities, whatever was presented to us, or that we calculated as we've described. And added it all up, and then subtracted the savings from the 2007 forecast, from 2007 to 2016.

So the black line on this graph, the upper line is the 2007 through 2016 portion of our state's forecast, Energy Commission forecast.

The pink line is the savings proposed by the utilities. The solid pink line shows that from 2013 through 2016 there's no increase -- there's no new programs from the IOUs. Only the POU programs are in place. And the dashed line is assuming that the incremental savings from 2013 through 2014 are the same as 2013.

Everyone so far with me? Okay. The red dot is the 10 percent savings target. The 80 percent shows that we would just do a little bit better, according to the way this one looks. The green box is the economic potential. And the blue triangle is technical potential.

And in all cases we have still not included emerging technology. Emerging technology would make the green box and the blue triangle go down. Any questions on this one, or should I move on to the next?

Peak demand. We did the same thing for

peak electricity demand. One of the points I'd like to make on both of these slides, is an awful lot of the numbers end up awfully close together. Sort of around the dashed pink line, the brown dash, the red dot on all these slides -- so far these two slides, fairly close together. A decision one way or the other isn't hugely different.

And you'll notice we're not giving you any decimal places on the megawatts and gigawatt hours. We're rounding off to big numbers. This is not that precise.

The next one is natural gas consumption. As you've been told in various forums prior to this, getting natural gas savings appears to be harder to do than getting electricity savings. Reasons for that I don't fully understand, but it's certainly indicative of what folks think they can go after and get. It shows up here.

ASSOCIATE MEMBER GEESMAN: I guess therein lies much of my skepticism or apprehension about the utility program prism through which I think the Itron study appropriately looks.

Because our natural gas demand forecast would suggest, tracking historical data, that demand for natural gas, particularly in the residential sector, has declined probably moreso than the stabilized demand for electricity which we're so proud of.

And yet if we haven't had the benefit of a great deal of utility program focus on natural gas savings, what's produced those savings on the natural gas side?

MR. KLEIN: It's my understanding that a fair amount of our historical savings were because we've roughly doubled our building stock since 1970. And most of that time it's been under a building standard since 1978.

So we've, in fact, built better buildings and that's where a lot of the gas consumption in commercial and residential goes, is the heating side of that.

We haven't done a whole lot about water heating in and of itself. We've got some more efficient fixtures and we've gotten more efficient appliances, washing machines, clothes dryers -- washing machines and dishwashers, in particular.

So that would be a good reason for historically. And the utilities participated at great length over many of those years to support those changes.

You also may remember that in the early 80s, I believe and most of the 80s, parts of the 90s, the utilities were going out and insulating people's attics which had none. There was an awful lot of building -- the first half of the population were buildings that were built prior to 1970 didn't have much. And insulating those made a huge difference to heating loads.

So those are all reasons for the stabilization. It's just getting the next increments are getting harder to do.

We've recommended option two as a statewide goal. And I keep underlining statewide because we think that there may be good reasons to have individual utility goals.

And we've shown these here as the savings compared to the 2016 forecast. We're looking at the consumption. We actually have a difference of opinion among staff as to whether one should talk about savings, or whether one should talk about a consumption target.

So we've taken the savings that are represented by option two, which is the 80 percent of economic potential, and we've plotted them as a consumption target for us to aim at.

Part of our reasoning for doing this is that if we're aiming for achieving AB-32 reductions in emissions, whether they're proportional or established by some other method, consumption is the magic number. We have to reduce the consumption from an efficiency point of view, or change the fuels that supply electricity to make the changes we're talking about for AB-32.

So that's one reason we've done this. Not all staff agree with us. So, just so you know. Any questions on these targets?

ASSOCIATE MEMBER GEESMAN: Where does that leave you with respect to the Legislature's 10 percent goal?

MR. KLEIN: It's a great question and we'll go back and look at it. It's the fastest way to do it. Let's go back to the electricity consumption slide.

The 80 percent reduction is slightly lower than the red dot for electricity consumption, so we're better off. The 80 percent on peak demand is, it looks to me it's like 5600 compared to 6800 megawatts.

PRESIDING MEMBER PFANNENSTIEL: But the

legislative goal is just on the electricity consumption, wasn't it? It wasn't on --

MR. KLEIN: That's correct. That was what the intent language was about, Commissioner Pfannenstiel.

So this is an indicative target. Nonetheless, useful.

And then for natural gas it's about half.

PRESIDING MEMBER PFANNENSTIEL: Gary, going back to the electricity consumption graph, the option three, the cost effective economic potential, --

MR. KLEIN: Yes.

PRESIDING MEMBER PFANNENSTIEL: -- would bring that down somewhat, not enormously, but somewhat. Why wouldn't you have pushed to go there? It seems to me you stopped at 10 percent, a bit short of, you know, what looks like a trend that would, over time, make a large difference. But is not, as you pointed out, given the uncertainty of all of this, it doesn't look like the target would be enormously more difficult to reach.

MR. KLEIN: It's a great question. And

we wrestled with this. So now I'm going to answer some of the other questions you've asked before.

Personally I think that the technical potential studies we've done for the last 10 or 15 years under-estimate the technical potential by a factor of two. I think that blue triangle goes way down. But that's my opinion. I haven't done the studies recently.

My datapoint for this is the study we did in 1990 when I first came here and managed the energy efficiency report. And we showed at that time that we could reduce consumption compared to 1990 levels with economically viable energy efficiency options.

And so that would bring that number way down on this graph. Okay. On the order of, if I remember my math right, on the order of about 150,000 would be the point that you'd look at. So it's more than 50 percent down there.

So I have a question for everyone, where did all that potential go that we're not finding anymore. I don't know offhand, but it's something to consider.

The economic potential is derived from the technical potential one thinks is available.

That's how the studies are done. They're not separate mathematical exercises. Technical potential is the big bucket; economic potential is of that's what's technically possible to do, what is economically viable to do.

Economic viability, Commissioner Geesman, you keep asking what are the metrics that are included in the economic potentials that people assume. They differ. Are they the right ones for society? Probably not exactly. They're done for different reasons, and each study chooses a slightly different metric. That's unfortunate, but that currently is the state of affairs.

So I think there's an awful lot of fuzz in the economic and technical numbers, Commissioner Pfannenstiel. So your question, why did we not pick even more potential, okay, economic potential being the lowest number I might choose to pick personally is what you're going to say in a minute.

It turns out that there's a dilemma between now and 2016 of ramping everyone up.

PRESIDING MEMBER PFANNENSTIEL: Right, and I understand that we'll get to that discussion.

MR. KLEIN: Yes.

PRESIDING MEMBER PFANNENSTIEL: But it does seem that as when we know the least we can do is 10 percent, or that's what the law tells us, but then we talk about well, what makes sense to do. It seems like it's from a policy standpoint difficult to go beyond cost effective or economic potential.

So if the economic potential as enormously different than the 10 percent I would worry more about the achievability. But it's not really enormously different. Yet it sets us on a trajectory which, over time, is enormously different.

And so I haven't really heard a reason not to go to full economic potential. Maybe from the rest of the discussion here I'll hear that. But I haven't yet heard it.

ASSOCIATE MEMBER GEESMAN: Well, I'll offer one. And I think you'll remember from when both of our children were younger, it's a lot more satisfying to play basketball with eight-foot baskets than ten-foot baskets. The kids score more points. Everybody feels better. I think that characterizes this entire program area.

MR. KLEIN: I have no comment.

PRESIDING MEMBER PFANNENSTIEL: Okay, why don't you continue.

MR. KLEIN: That's why we're having a good discussion on this one today, there will be lots of stuff to come out.

So, even though, Commissioner Pfannenstiel, I have a question back, for peak demand and for natural gas, which were not discussed under the intent of legislation, the 10 percent target in the peak demand case, and the economic potential looked almost identical, so following your logic we should probably continue for economic.

I'm not disagreeing, I'm just trying to make sure I understand it right.

PRESIDING MEMBER PFANNENSTIEL: I think that's probably right. That really wasn't where my thinking was going. I was really focusing on the energy part.

MR. KLEIN: Okay. And --

MR. TUTT: Gary, I was thinking along similar lines, many of our legislation in the past few years in our loading order talk about achieving all cost effective energy efficiency.

And so it seems kind of funny for us to suggest a target which doesn't actually do that.

MR. KLEIN: I understand the concern. And then on natural gas, all economic doesn't get to 10 percent according to the way the studies would represent the numbers, unless you add in the emerging technology that appears to be available. In which case, that green box gets below the red dot. Okay.

So what I'd like to do now is to turn this discussion over to Mike Messenger, who's going to carry the next part of this discussion, which is looking at the energy saving trajectories for individual large POUs.

MR. MESSENGER: Hi. I feel like I've been set up. There was a good guy, and now I'm the bad guy. So, I'm here to talk to you about what I think the real constraints are to achieving significant increases in savings, particularly for some of these municipal utility companies who haven't been in the business of running conservation for programs for more than two or three years.

And basically the reason I started on this analysis of trying to figure out what the right level of goals might be for individual POUs, is I wasn't satisfied with setting one goal for all utilities because they all started from such different places.

From my perspective if we were to set the same goal 80 percent or 100 percent for some of these utilities, you would be setting them up for failure, because they don't have the resources and the funding availability, or staff, for that matter, to get there. Whereas others have been in the business, like SMUD, for ten years, and that might be a reasonable goal for them.

So this analysis tries to look at what should we set for individual POUs which will then give us the ability to track whether or not they meet their goals on an ongoing basis, ongoing forward basis.

So basically when I did this analysis I looked at four principal things. One is I spent a lot of time looking at the historical record of both the IOUs and the POUs in terms of what they actually were able to achieve over the last ten years. How quickly were they able to ramp up.

And based on that analysis, and I'll go into some more details later, we support basically looking at the savings-to-sales ratios for most utilities as a starting point, and then doubling that over the next ten years. And I'll try to explain to you why we came to that logic in a second.

That leads to anywhere from a 2.2 to actually a 2.5 increase in annual savings over ten years, depending on how the forecast that the utility has of how much growth they have in their particular service territory.

The second criteria I looked at was cost effectiveness. And I note that the sophistication of inputs has increased dramatically among the munis applications that I've seen relative to let's say three or four years ago. But in many cases it hasn't been completely integrated with their resource and their measurement and verification plans. So they're accepting, for example, avoided cost inputs from other utilities as opposed to their own.

Third thing is I wanted to make sure that there was a margin for error to meet the near- and long-term goals. And in many cases we're going to be recommending shooting for 10 or 20 percent above what our minimum target is to give them a chance to actually make the goal. Because my experience is that realization rates in EM&V is that you usually come in anywhere from 70 to 80 percent of what you were shooting for with your funding, when you went to your board and said, we're going to get this much savings next year.

And finally, I think it's really important to consider the goals effect on POU motivation. I think it's very important in the next two or three years that some of these utilities actually meet their goals and can go back to their Board with a success story rather than, well, we went to the Energy Commission; we gave them really stretch goals; and we didn't meet any of them. Then I think we have the possibility for failure and some of the individual board levels saying, well, why not. And from my perspective it's, you know, it's important to show some early wins for many of these munis.

And finally, there were some munis where we actually let their savings increase more at a higher rate than some of the other munis because they had other adopted policies at the board level. For example, some of them had made sustainability commitments that required them to achieve even more savings than we were looking at, because they were working either with a UN program or they had made a sustainability commitment with other cities on a global -- as part of their commitment to reducing global gases over time, GHG.

So when we looked at this I wanted to have a sort of universal or fair set of ramp-up constraints based on the historical record over the last ten years. And when we look at that, basically the first year ramp-up should not exceed a 50 percent increase in savings. Particularly for utilities with relatively small staffs.

And we didn't want to have savings that doubled in three years. And the reason for that is when we went back and looked at the IOUs record, in every case where they had significant increases for two years, for the IOUs over the past ten years, there was a decrease in the third year.

In other words, if they had increased savings by more than 80 percent in years one and two, the next year down; and I can show you some charts of this. Usually it's a drop off of anywhere from 10 to 50 percent.

Now I'm not saying that necessarily the history predicts the future, but I think there's some organic factors that work in here like EM&V studies and other things, feedback that comes back and says our original targets weren't necessarily as high as we thought. And in some cases there's just changes in philosophy at the top of the utility. You know, they may decide that they want to spend less on energy efficiency because they aren't meeting their goals, or they've over-reached, so to speak, in terms of their commitment to goals.

PRESIDING MEMBER PFANNENSTIEL: And that seems like a difficult experience to carry over to, you know, this whole new group of utilities, publicly owned utilities. Doesn't seem like either of those reasons that you -- possible reasons that you just gave for a third year dropoff would necessarily hold true in this case.

So I'm not sure how valuable a third year past experience drop-off for investor-owned utilities, how important that is to this discussion.

MR. MESSENGER: Okay. Well, I'm going

to show you a chart for the munis that shows you the same pattern, for LADWP and SMUD, as well. But, again, they may be a different experience than some of these smaller munis, I agree with that.

But from my perspective, the reason I'm going into this is that I've noticed over 20 years of history in this field, that people always come in with huge economic and technical potential estimates and aspire to get to those. And they ultimately get anywhere from 50 to 70 percent of those, when you actually look at the historical record in terms of what they actually were able to achieve.

So, I think that the constraints are not what we, as economists or an analyst, can see as economic potential. I think there's two kinds of constraints.

One Commissioner Geesman mentioned, which is we see everything through the utility prism. So we can only think of programs in terms of how we deliver them in a certain prism and way.

And I think the second constraint is primarily funding and staffing. Munis, in particular, since their sales -- savings are not decoupled from sales, when they decrease their sales, that results in a revenue decrease for that city. And so I think that that is another binding constraint that tends to hit.

And I think you can see it in LADWP when I show you that slide because they're an example of a utility where that revenue is an important source to support their own budget. And so when you start to drop sales, I think that that triggers sort of organic constraints within the system.

ASSOCIATE MEMBER GEESMAN: And an important covenant that they made with their bond holders.

MR. MESSENGER: Yes, I would agree, also. Okay. So let's go to the next. So, what we did is basically selected long-term savings goals for each POU for the year 2016. And we applied a ramp-up constraint to -- and this is a typo, it should be 100 percent jump over three years, no more than a doubling over three years.

And then we grew the annual savings to be consistent with the sales-to-savings ratio that we set for 2016 between 2011 and 2016. So what that works out to be is something like a 10 to --

7 to 15 percent in growth, depending on the utility, over the years 2011 to 2016. And I'm going to show you what this looks like in graphical form in just a second.

I may have already -- I may be repeating things here, but my overarching comment is the potential to achieve additional energy savings, at least in this sector, is not limited by economic potential or emerging technologies.

In every case, at least in the past, that I know of it's been limited by the amount of funding and staffing constraints in terms of what utilities able to achieve.

As far as I know, no utility in California has ever run into the constraint of saying, well, there's just no more economic potential out there. With the exception of natural gas, and I think that's a difference case which I'll talk about at the end of this discussion.

Because I think, as Commissioner Geesman noted, the problem is that there's been very significant decreases, like on the order of 50 to 80 percent over 20 years in gas consumption per household. So it's much more difficult to get to the remaining savings, because most of it has already been achieved through various kinds of thermal and shell improvements, as well as we have furnaces at 92 to 95 percent efficiency. So you can't get much higher than that.

The other thing I would note is that in electricity you have a lot of new technologies that have been added into the households. So there's new opportunities for savings. And there haven't been very many new gas appliances in the last 20 years relative to electricity. So there's not a lot of additional opportunities for savings. We're primarily looking at space water heating -- space conditioning and water heating, at least at the residential level.

Second observation is it's probably better to invest, at least for most of the utilities, in developing a program tracking structure, and EM&V structure, and working with their allies than to assume that savings will double or triple in the next three years.

We want to build a strong foundation so the utilities can sustain their commitment to making savings over a ten-year period. Because I fear, as I've seen in the munis sector over the last ten years, that boards go up and down politically. That if we set up a situation where munis fail and haven't developed a track -- to actually verify the savings, then we may run into a situation where we have munis backing down and going for less savings rather than more. You'll see that in some of the slides that I show in just a second.

And finally, a solid foundation with realistic goals is probably preferable to a boom-and-bust patterns in annual savings that we witnessed for both IOUs and munis over the last decade.

I'm going to show you four types of comparisons. We have all on the charts, but I didn't think we had enough time.

In some cases the application of this methodology results in lower savings in the early years, but higher at the end. Some of the cases we have higher savings goals in the utility for all years. In other cases we have lower savings in the utility for all years. And in some cases we're really close. For example with SMUD; I'll show you that in a second.

So here's the first example I wanted to

give you is staff's example of Anaheim. And we've used our method in terms of projecting annual savings. And rather than being satisfied with achieving 50 percent of economic potential, which is apparently what most of the utilities were advised by their client, RMI -- or by their consultant, RMI. Using our methodology we get to roughly 70 percent of the economic potential for Anaheim.

And as you can see, a relatively significant end goal or difference in terms of first-year savings from the last year in 2016.

Here's a different case where the utility again proposes a rather steep, from our perspective, probably not possible increase in savings in one year from roughly 5000 up to, it looks like about 11,000 in one year. And then a flat line, again consistent with the RMI recommendation of this is what you need to get to 50 percent economic potential.

We would propose a steady ramp-up rate over the entire period leading to much more savings at the end of the period of roughly 64 percent of economic potential versus the utility at 50 percent here.

Now, here's the utility where we probably have the biggest difference in terms of where we think people should go. LADWP is proposing essentially a sixfold increase in savings over the next four years. We don't think that's feasible given what we know about the annual budgeting structure at LADWP, and what they've achieved in the past.

And, again, in this case we advocate a slow and steady increase to get to much higher savings, on the order of 250,000 megawatt hours at the end of the year. And not to have this dropoff of, you know, I don't know, from 300,000 down to 60,000 over the last five years. That doesn't seem to us to be plausible.

Here's a case where I would argue that we're relatively close to the utility proposal. This is SMUD. SMUD advocates for significant increases in the first three years and then a shallower slope after that.

From our perspective it's better to take the slow and steady approach because you're going to be able to tap into a lot more emerging technologies if you do the early-on case work and case development. And don't over-reach, so to speak, in the first years, but eventually get to the same place in year 2016.

And here's the result of this proposed methodology for each of the 13 POUs in terms of the aggregate savings. As you can see, ours is sort of a monotonic steady increase in savings over the time period, whereas the utilities have a much more aggressive proposal in terms of between now and the year 2010. But we're not sure that you can actually get there, and we're proposing essentially a more conservative approach here.

ASSOCIATE MEMBER GEESMAN: Mike, in terms of the downward slope on that last curve, is that more utilities than simply Los Angeles?

MR. MESSENGER: Yes.

ASSOCIATE MEMBER GEESMAN: And is that a function of their planning horizon simply doesn't extend out beyond the peak in your graphs? Or do they actually, I don't know, plan to rip out insulation from people's attics?

(Laughter.)

MR. MESSENGER: I think there's two factors that I've been able to uncover in my interviews with the utilities. One is that their consultant said, well, this is the maximum achievable, and once you've run out of it you have to ramp down, because there's no more achievable given the constraints of their study.

They didn't, for example, envision more energy efficiency coming online in let's say the year 2011; they said from our vantage point here in 2007 this is how much is going to be available. Therefore, when you run out at the top you have to start ramping down or you violate the constraints of the model. You're going into un-economics, so to speak. That's one reason.

The second reason is that in most cases the utilities accepted what I consider to be the advice of RMI, that you only need to go for 50 percent of economic potential. Once you've got to a line that gets there you can afford to drop off. So I think in some cases it was motivated just by that policy.

And third, some utilities indicated that they saw some difficulties in getting to the high levels of funding that you would need to sustain over a long period of time. And I think that gets back to the discussion I mentioned earlier about the decoupling problem. And if you're actually getting to a place where you're actually decreasing your forecast, which would be the case in some utilities, forecast of sales, you're actually decreasing revenue coming back to the utility, at least in theory. And that's, from their perspective, not necessarily a good thing.

ASSOCIATE MEMBER GEESMAN: I'm not certain I understand what the programmatic impact of the staff's recommendation would be in terms of those years in which you suggest the targets be lowered. Does that mean, for example, in the City of Los Angeles that's a rationale for reducing the budget that's been proposed for the efficiency program?

MR. MESSENGER: No. What I think it means is instead of asking for a three- or fourfold increase in budget for the first four years, you ask for a 50 percent increase every year. And you're asking for a -- so you're not having these gigantic increases in funding that's necessary to capture the savings in the first year or two. You have a steady ramp-up over time.

And it's because I believe, in general, there's almost a one-to-one relationship between the amount of savings you can get and the amount of funding that you ask for, with some exceptions.

So, if I'm a utility and I want to double my savings between now and next year, pretty much for sure I've got to ask for a doubling in funding. And some boards will accept that, and some boards will say, we can't finance that kind of big jump, given all the other obligations that we have to run our utility.

ASSOCIATE MEMBER GEESMAN: So you're suggesting a lower staffing level, or lower budget level than the utility might otherwise request in the near term?

MR. MESSENGER: Right. And ultimately usually a higher budget in the out years because you continually grow up.

ASSOCIATE MEMBER GEESMAN: What's your experience during your time in government, the ability of government, or corporations for that matter, to budget for the out years?

MR. MESSENGER: I would say less than 50 percent of the time do they come within, let's say, plus or minus 20 percent of what their budgeting in the out years is going to be.

So I think, you know, that's a problem in all of these ten-year projections, is we've been saying to the utilities, if you really think that you're going to need this long-term savings goal, you need to have a three-year budget or a five-year budget, as opposed to an annual budget.

And every time we've talked with most of them they say that's just not the way it goes. In our business we have to have a yearly budget. And that heightens my skepticism that they'll be able to maintain a significant increase in budget each and every year over a three-year period.

PRESIDING MEMBER PFANNENSTIEL: Mike, the overall POU growth rate continues. As I remember back at the, what I think Gary showed us, is about 63 percent of the growth overall for the POUs being met by this program.

Yet I'm sure for some utilities the growth is much higher. And so the savings that we're getting to here would be a smaller percentage of their overall growth.

I'm trying to get to the motivation question. How do you -- if they are using their revenues from the sales of electricity to fund their general plan, which obviously they are, and you take away all potential growth, how do you motivate them. Yet, in many of these instances I assume they're still growing, there's still positive growth in sales, correct?

MR. MESSENGER: I think that's correct. A simple way to look at it -- I'm going to show you some more slides that will answer, I think, your question in terms of the differential between the utilities.

But a simple way to look at it is look at their sales-to-savings ratio now. And if that's equal to their forecast rate, then you're going to be basically having no growth over the time period. If the sales-to-saving ratio is a lot less than that, then there's still room for growth and they're going to have net growth over the ten years.

So, I'll --

PRESIDING MEMBER PFANNENSTIEL: And the other question is on the economic potential. I'm assuming it's all economic from the customer standpoint.

MR. MESSENGER: I think that answer to that is yes, but the statement that we have is it's economic from a societal standpoint. They use the TRC. So that includes both the customers and the utilities --

PRESIDING MEMBER PFANNENSTIEL: Right.

MR. MESSENGER: -- in that calculation. So, I want to get to your question --

MR. TUTT: Mike, before you go on, back to that slide, please.

MR. MESSENGER: Sure.

MR. TUTT: I understand from Gary's presentation that the POUs in total propose a target of 56 percent of their economic potential. And staff is proposing 80 percent of the economic potential. Is that reflected in the end of that chart right there? Is that what we're looking at? With staff's target is higher than the POU target overall?

MR. MESSENGER: So the answer to that question is going to come up in my last slide here. I'm going to show it to you. But, if you were to take these individual POU estimates that I've recommended to you, you would be getting less than 80 percent of economic potential.

I'm proposing an alternative that gets you to about 56 or 57 percent if you were to adopt these targets.

The 80 percent is if you just want to set a statewide target and not hold individual utilities accountable to any specific number, other than 80 percent. This is a set that says here's a very specific number to hold to each utility.

And, again, as I said, this is a more conservative analysis so you don't get to the 80 percent under this set of numbers.

MR. TUTT: I see. And then the other question I had is in relation to how fast you can ramp up these programs. Would you agree or disagree that it's harder to ramp up these programs extensively if you're already a fairly large entity, that it's easier for smaller entities to have higher percentage growth than the large entities?

MR. MESSENGER: I think it varies by the utility. And let me just answer for two specific utilities to make my point clear.

For LADWP, for example, they have a history of having a large -- they've had a large program in the past. And so all those people are sort of still around in the bureaucracy. So I think it's easier for them to pick up and rapidly ramp-up, even though they have a relatively large basis to start from.

For some other utilities that have never had the position of manager of conservation programs, or any resource analyst to speak of, for them it's, I think, harder to ramp-up quickly because they've got to convince their board to hire new staff. And that's the most difficult thing to do in a municipal.

The only way, from my perspective, to achieve rapid savings in a utility that has a very small staff is to out-source it all. Is basically to say here's the budget money, we want separate third parties to come in and run programs for us. And we will, you know, monitor and verify that; but we won't actually internally staff up to achieve those savings.

MR. TUTT: And if it's a small utility that makes that kind of program decision, isn't there sufficient energy efficiency infrastructure in the state overall to allow that kind of rapid buildup of that small utility?

MR. MESSENGER: I think the answer is probably yes. But I'd note that it's difficult to find examples of munis, at least right now, that are outsourcing on that kind of scale.

So now I'm going to try to get to the answer to Commissioner Pfannenstiel's question. I think you asked what's the difference between what would happen if we lived with the utilities' trajectory versus the one that I've just forwarded.

And as you can see, it's mixed. It depends on which utility you look at. In some cases the utility is higher, and in other cases -- well, I'm getting ahead of myself.

I was focusing on the end game first. I'm going to go back to -- the next slide is going to show you cumulative. First I want to just talk to you about what we're allowing in terms of the doubling.

You can see that the utilities all start at very different places in terms of the sales-to-savings ratios. Some of them are down at like .12 percent. And so for them to double or triple, it's going up to .4 percent, which is still not in sort of the mean of where everybody is, but that's got to be a relatively significant increase for Modesto.

And just for comparison purposes, I put where the utilities were -- the IOUs were ten years ago, and where they're ramping up to in 2006. And as you can see, most of the utilities just barely achieved a doubling over ten years in the IOUs in terms of their sales-to-savings ratio. Which is another reason why I think it's reasonable for us to ask with a lot of extra policy push, and perhaps extra resources, to have the munis double their savings-to-sales ratios over a comparable ten-year period.

And I would say in many ways it seems to me like the munis are in a place similar to where the IOUs were ten years ago. They're getting strong societal, as well as policy and management, direction to rapidly increase their savings. They're, in some cases, being told that they're going to get additional compensation if they achieve their goals, which is what the case was in 1994, 1995 for the IOUs.

So in many ways I see a lot of parallels between what the munis are starting out with right now, and what they IOUs were faced with ten years ago.

MR. TUTT: Mike, can I stop you there for a second.

MR. MESSENGER: Sure.

MR. TUTT: If you look at that IOU pattern of ten years, though, it would seem -- and

I'll pose this as a question -- didn't most of that increase happen in the last five years of that ten-year period?

MR. MESSENGER: The answer is no, and I have a chart that's going to show that exactly. So maybe I -- would you like me to switch to that? Because I have a pattern of where the savings happened in the last ten years for each IOU normalized to one. So that, I think, will show that to you. Is that okay if we wait till then, or --

MR. TUTT: We can wit till then. the other question I have is given the passage of AB-32 and other statewide sort of goals and what we're looking at in the future, would it be reasonable to have a speed-up of that ten-year pattern you're looking at for the next ten years?

MR. MESSENGER: I think it depends on how you perceive each utility as motivated at the staff level -- as I said before, I think it's really important that you meet some of your near-term goals and show some success. Otherwise, there's going to be a backlash in terms of funding these programs in the first place.

But I do think it's reasonable, once

you've established a pattern of meeting your goals for two or three years, to ramp up those savings goals over time.

The last thing I wanted to point out on this graph is I think it's a much better place to be at in the year 2016, since solving this GHG problem is going to be -- it's decades, not years, problem. If you have 50 percent more annual savings happening in the year 2016, than if you were to accept the utility savings goals and only get to 489.

So I'm trying to set up a system so that you can actually have a higher base of savings to start with, or to continue on with, and to sustain that over time.

Now, this, I think --

MR. TUTT: But just to confirm, that 713,000 what is it, megawatt hours, is lower than 80 percent of the economic potential statewide goal for the POUs?

MR. MESSENGER: It depends on how you estimate economic potential. Because economic potential is a cumulative number over ten years. So I can't tell you whether it would be more than or less than 80 percent of the economic potential in that last year, in 2016.

My sense is that it would probably be higher than 80 percent. But that's because it's getting less in the earlier years. Did you follow me? Am I making sense, Tim?

This shows the fraction of economic potential that's achieved. In other words, the cumulative, using these two different trajectories, the one in the middle column there, the second column, is the utilities targets that were submitted to us. The third column there is the CEC's trajectory that I've shown you in the previous graphs.

And as you can see, in some cases we get to higher levels of economic potential. In other cases we get to lower. And, again, it depends crucially on where the utility started. And that's really the point of this analysis is that some utilities are starting at a place much more in advance with a lot larger array of programs than some of the other munis in this.

And so for the utilities that are starting out sort of with ten years of experience, it's going to be possible for them to get to say 72 percent is what Glendale is getting, for example. Pasadena's going to get 64 percent.

But for utilities that have just started out, Riverside is a good example, they've been doing it for two or three years. We're projecting them only to get to 20.4 percent of their potential because we don't buy into the rapid increase of four- or fivefold in the next three years that you'll see in that particular utility's application.

And the bottomline is, which, I think, is Commissioner Pfannenstiel's question, by my calculations they're getting to 67 percent of what was reported as economic potential with the POUs; whereas only getting to 55 percent if you accept this more conservative trajectory summed across all the utilities.

MR. TUTT: Mike, how does that compare to Gary's number in his presentation that the POU targets were 56 percent of that.

MR. MESSENGER: I think it's because this is only looking at 13, we're not looking at the other 36 in this particular chart.

MR. TUTT: But these are the larger 13.

MR. MESSENGER: These are the larger 13. As far as I know, it should be comparable. So maybe I need to go back and check. But as far as I can tell, the economic potential, at least the numbers that were given is at 67 percent of the economic potential if they achieve their trajectory over that.

So I'll go back and confirm that with Gary to make sure.

Okay, so summary of the sort of individual recommendation section. We would suggest that you modify the individual three-year saving targets that have been filed by most of the utilities; insure that the majority of them have a realistic chance to meet their savings goal.

And then accelerate the savings after the year 2010, once the infrastructure is in place and they've confirmed to their boards that they're capable of meeting their savings goals.

Consider revising staff's original statewide goal of 80 percent to be the sum of whatever set of individual POUs savings goals that we set, plus the IOUs.

And as I said before, basically the rule of thumb here is if you double the savings-to-sales ratio for each utility that's got to be a very significant achievement for that utility, and will lead to more than a double in terms of savings between now and ten years out in 2016.

And essentially this is a modification of option one, which is we're not picking 80 percent as the rule for everybody. But that's the goal we're striving for. Some utilities can get there and others can't because of where they started from.

The other thing that we recommend that you do, regardless of what level of savings that you adopt here in this proceeding, we think it would be very important the Commission writes a letter of support to each of the POU boards saying that we're happy that they have come in with information documenting where they think their utility is going with respect to energy efficiency, and committing our support to helping them reach their goals.

And --

ASSOCIATE MEMBER GEESMAN: Well, why would we support unrealistic goals?

MR. MESSENGER: Oh, I'm assuming that you're going to --

ASSOCIATE MEMBER GEESMAN: You just told us that many of them, particularly the largest ones, have put forward unrealistic goals. Why would we send a letter to their board saying, you know, we know a lot more about your service territory than you do, and we know a lot more about your customers, we know a lot more about your utility's capability. But we support your unrealistic goals.

MR. MESSENGER: What I was saying is that I'm assuming that the Committee is going to take our recommendations under advisement. And you will either accept staff's recommendation or not. Whatever level that you adopt I'm going to assume is reasonable.

And then based on that level you should write to the boards saying, either we're going to support you in reaching the goals you have sent to us. Or we have a slightly more conservative approach; we're going to support you getting to these goals with this type of recommendation.

But I would not support characterizing them either as unrealistic or not achievable. I think we should offer to support whatever level of goals that you guys adopt.

ASSOCIATE MEMBER GEESMAN: Despite what you've just been telling us about the goals of some of the larger utilities?

MR. MESSENGER: Yes. The other thing I would say is that you should consider some form of payment or performance system if the 2007 and 2008 goals are met by any of the utilities.

For example, we could work with the utilities to ask for the Legislature to provide some kind of program funding bonus -- 10 percent I put down here as a possibility -- if they actually achieve their goals.

And I say that because a lot of the utilities that we interviewed said that funding is a real constraint. And so the more that the state can reinforce success with additional funding, the more likelihood I think there is that these boards will continue to vote for increases in energy efficiency.

The other thing I would suggest that you consider is recognizing, somehow formally, outstanding POU programs after two years have passed. Give them a lot of publicity. You want to recognize people that are doing a good job.

And at that point in time I would consider accelerating the rate of acquiring the savings if the utilities are actually capable and show that they meet their 2007 and 2008 goals.

And this is just workpapers in terms of if people want to look at the details of the saving trajectories.

And now, Gary, do you want to present this, or do you want me to take this?

PRESIDING MEMBER PFANNENSTIEL: Mike, before you -- I just want to make sure. I'm confused.

MR. MESSENGER: Okay.

PRESIDING MEMBER PFANNENSTIEL: The staff recommendation is option two, which is 80 percent of the economic potential.

MR. MESSENGER: Right.

PRESIDING MEMBER PFANNENSTIEL: And yet, the cumulative savings that you show don't get to the 80 percent. They're closer to 55 percent.

MR. MESSENGER: Correct.

PRESIDING MEMBER PFANNENSTIEL: And explain to me again why that is consistent with the staff recommendation:

MR. MESSENGER: Sure. I'm posing an alternative condition. The first --

PRESIDING MEMBER PFANNENSTIEL: Oh, so there are two different staff recommendations out there?

MR. MESSENGER: Right.

PRESIDING MEMBER PFANNENSTIEL: There's the 80 percent and then yours is the 55 percent?

MR. MESSENGER: Right. Mine is --

PRESIDING MEMBER PFANNENSTIEL: I just wanted to make sure. I did not understand that to be the case.

MR. MESSENGER: Right. And I tried to explain the reason. The reasoning was some people felt uncomfortable with requiring 80 percent for each POU because some POUs may be able to get there and others may not. So that's why we did this more detailed analysis --

PRESIDING MEMBER PFANNENSTIEL: So if you do it on a POU-by-POU basis, in terms of a reasonable number, you get to a 55 percent, --

MR. MESSENGER: Right.

PRESIDING MEMBER PFANNENSTIEL: -- even though there was the general feeling that we should get to something closer to an 80 percent?

MR. MESSENGER: That's correct.

PRESIDING MEMBER PFANNENSTIEL: That's the difference. All right.

MR. MESSENGER: And by the way, the

alternative that you could consider if 80 percent is something that's very important, is that you could consider requiring more of the IOUs, or you could consider alternative programs outside of the scope of this.

Because I'm convinced that, again, just looking through the utility program lens, and using the funding constraints and other kinds of constraints, you will not necessarily ever get to all economic potential. Because that's only one delivery strategy of many that you could think about.

And so, you know, we're a little bit constrained in that we have to look at this particular strategy because that's what the law says in terms of what we have to do. We have to look at what the utilities can deliver. But there may be other alternatives that could get to all that economic potential. It's just, in my judgment, you can't get to all that economic potential, a hundred percent of it, given the existing situation with the munis.

PRESIDING MEMBER PFANNENSTIEL: But the law doesn't really talk about the economic potential. As I remember the law talks about 10 percent.

MR. MESSENGER: That's right.

PRESIDING MEMBER PFANNENSTIEL: And so the discussion of economic potential is really our discussion about how to achieve at least that 10 percent.

MR. MESSENGER: Well, but --

PRESIDING MEMBER PFANNENSTIEL: And what else is out there.

MR. MESSENGER: I misspoke. The law does say, and, Gary, correct me on the right words, we're supposed to get the maximum achievable cost effective --

PRESIDING MEMBER PFANNENSTIEL: Right.

MR. MESSENGER: -- resources in this process. So the judgment of cost effective is one thing. But what's the maximum that's achievable; that's what we're talking about here, I think.

ASSOCIATE MEMBER GEESMAN: Does 1037 apply to the POUs?

MR. KLEIN: Yes.

ASSOCIATE MEMBER GEESMAN: And that requires some kind of loading order approach, does it not, with respect to juxtaposing efficiency against investments in conventional sources for procurement purposes?

MR. KLEIN: That's correct.

ASSOCIATE MEMBER GEESMAN: So, I guess in Gary's judgment 80 percent is where we ought to be shooting; and he believes that's consistent with AB-2021. And Mike judgment, 54.8 percent is close enough for government work?

MR. KLEIN: I would not propose to characterize it that way, but I do have a suggestion to think about. We assume that the world, as we know it, ends in 2016, because that's the ten-year horizon for our analysis.

But what we are showing in Mike's math is that the trajectory keeps climbing toward the end. In three more years you've hit your 80 percent, or four more years. You're on a better ramp-up path.

ASSOCIATE MEMBER GEESMAN: In ten more years we're going to have the troops home from Baghdad.

MR. KLEIN: Fine. We understand that there's a judgment call here. If we decide, and you, as a Commission, decide that we should aim for full economic potential by 2016 then we will go back and revise our mathematics to make that viable. But no one's math is on that trajectory yet at all.

If we decide that we want to have individual accountability and individual targets with each municipal utility, and conceivably each IOU, that are believed by your staff to be achievable in the short term and sustainable through the long term, then we just have to change the ramp-up rates.

We can achieve the goals, or we can propose a path toward achieving the goals. What we're recognizing, even though we haven't discussed it in detail yet, is that no matter what goal we've ever set we rarely achieve all of it over time. We've come under in almost every case.

And, again, it's partly -- well, I'm not sure of the exact reasons for that. Mike mentioned one of them is that this discussion, so far, has been through the utility program lens. And you mentioned that earlier, Commissioner Geesman, that you're not sure that's the right way to look at this, and we're not sure it is, either. We think that there's a broader effort that needs to be undertaken.

ASSOCIATE MEMBER GEESMAN: Yeah, I just,

you know, on one level there's the, which statute should be ignore question. On another, I don't know how you tell the City of Los Angeles or SMUD or Modesto or Imperial, you know, maybe the eight-foot basketball league is too tough for you right now, you might feel a lot better with the six-foot basket.

MR. KLEIN: We spent a lot of time interviewing the staff at the utilities to get a handle on how their goals were picked and what they perceive them to be in relative terms.

It's a tension between goals that are big and goals that are achievable. It's a tension. We want to keep people playing for a decade or more. And so I think Mike's right.

If the utility has set a very high bar in the first year and they only come in at half of it, how's the board, which is going to be newly elected officials in two years, going to perceive that when they say, how come you didn't get there.

It's a tough question; I don't have a great answer for it. It's a tough one for us to play with.

ASSOCIATE MEMBER GEESMAN: I guess if the state government had a better record in the oversight of these utility programs, I might feel a little bit more willing to make a leap of faith that Sacramento knows best.

But, you look at our demand response program; you look at the IOU efficiency program performance to date; you look at the measurement and evaluation programs for those IOU efforts; and I'm having a hard time thinking that local initiative may not be a better way to achieve these goals.

And I don't know where we get off telling some of the larger municipal utilities in California, no, no, no, you're trying to go too fast.

MR. MESSENGER: To address that point I want to show you LADWP's record over the last -- and answer Tim's question.

PRESIDING MEMBER PFANNENSTIEL: You know, as you're putting this up, let me just make an observation. A lot of things I'm well guided by history because I think that we ignore experience at our peril.

But in areas like this I think that there is a fair amount of institutional learning that we should be assuming can be captured. And that the mistakes that perhaps the IOUs made at startup, and I admit to being part of some of those mistakes in my day, perhaps could be avoided by the publicly owned utilities who really have a different set of motivating features going forward, and can learn from what has worked for the investor-owned utilities.

MR. MESSENGER: I think it's certainly possible, and my caution is to make sure that you show a track record, at least in the first two years, of getting to those goals first before you buy into a ten-year forecast of tripling or quadrupling savings over time.

You have to show some track record. Let me just give you an example. This is LADWP, in terms of the savings that they reported to us. And as you can see, over time they've gone up and down based on a variety of factors, I'm sure. And it just seems to me that given this historical record, it's unlikely that they're going to break out of that pattern in two or three years to a completely different level unless there's a basic change in the way that the programs are funded.

For example, if they came in with a five-year funding commitment as opposed to a yearly funding commitment, it would seem to be more likely that they might be able to get to that place.

The other chart I wanted to show you is this is, again, the record of the IOUs in terms of the -- this is getting to Tim's question in terms of the annual savings that were shown over the last ten years.

And as you can see, they bounce all over the place. In part, I think, because of different regulatory regimes at the PUC; in part because of the existence of payment performance or not. But the one point I want to make on this graph is if you were to take the projection of trajectories for the 13 POUs you'd be right in the middle of the experience of the IOUs.

The dark blue there is the POUs. And, again, this is all normalized to, you know, in 1995 everybody's performance was normalized to 100. So this shows you the relative change over time of each of the IOUs.

The only IOU with a really significant increase, relative to the POUs, is SCE. And I think that is somewhat of a function of the year that you chose as the starting point. I tried it with 1996 and SCE's much lower because you can see there's this big drop, big increase in 1996.

So, I would like to believe that POUs can break out of the funding constraint and staffing constraints that other utility programs have shown over the last decade. But I think the way to get there is to set relatively conservative goals. And by that I mean 50 to 60 to 70 percent increase goals early on. And then if they demonstrate that they've gotten to that point, then reset the goals higher.

ASSOCIATE MEMBER GEESMAN: And would that describe how the IOUs have pursued this area since 2003?

MR. MESSENGER: I think yes, although each of the IOUs has reported a decline in savings in 2006 relative to 2005; again, keeping with this rule that I've postulated, which is if you have two years of rapid increase, you usually have a decline in 2006.

The data that we have so far is that all three of the IOUs have dropped in 2006.

ASSOCIATE MEMBER GEESMAN: And they changed the reporting metric, as I understand, for 2006. And as a consequence you weren't able to give yourself a report card any longer.

MR. MESSENGER: They changed the way that they could treat future commitments of savings, yes. That was part of it. The other part was a lot of the measures that they were required -- that were -- after savings particular CFLs, the hours of operation were found to be lower than they had put into their original projections.

So there's both changes in EM&V results, and a change in metric, as you suggested, that's leading to that fall-off in savings 2006.

MR. TUTT: Just so I understand that last chart, you're looking at the ten-year historical record of IOUs and comparing it to a normalized ten-year projected target level for POUs?

MR. MESSENGER: Correct.

MR. TUTT: And a separate question, then, I guess is do any of the POUs have decoupling of revenues from sales?

MR. MESSENGER: As far as I could tell, no. Although LADWP has a proposal to do that. And I haven't been able to figure out exactly how that mechanism works. So, they're at least trying to get there.

So, thank you. That concludes what I wanted to say.

MR. KLEIN: We've also made some recommendations regarding how to improve the next cycle. We will soon be at the beginning of a new three-year cycle for the legislative requirements of AB-2021.

We know we need to gain a better understanding of each publicly owned utility's goal-setting processes. You'll hear some more about that in a little while from a few of them we've asked to speak to that.

It'll help us better understand and give you all better advice as to what we think is achievable over the timeframe. It's not to say that their goals aren't worth taking; it's the achievability of the goals that you ultimately asked us about, we're concerned.

We want to engage the POUs to help them develop realistic and sustainable annual savings targets. We want them to achieve their goals. And we want them to continue doing that for many years to come.

We want to establish a program tracking

system with the POUs, and it needs to be based on independent EM&V. In staff meetings you've heard me talk about the rate of turnaround of the EM&V cycles. You've questioned it, yourselves.

It is my observation that the way one learns faster is to get the results from your EM&V sooner. The current paradigm of three to four years before the results come in we've talked about with our friends at the PUC. We all agree, it's not the right way to do it. But we haven't fixed it yet.

With the POUs we have an opportunity to change that paradigm and I think we need to. We want early and often results. We want to turn around the feedback so you get the answers, so you can make improvements. The goal is to acquire the savings as inexpensively as possible and as quickly as possible.

We would also recommend that we conduct a statewide potential study. Not an IOU study, not a POU study, but a statewide study. And we currently haven't got a proposal on the books for doing that, but it seems to be, from this work, that we really do need to do something like that.

We need to share successes and failure

and new program ideas. That's part of the learning curve, right. We want to take what's been learned by the IOUs and by other POUs and apply it sooner rather than later. As new programs start up they want to learn from past experience.

One of the dilemmas, however, that I would suggest to you is that we all have the same prism so far. We're all using the same scorecard, the same rule book. And I think part of the issue that we're raising today is that we really do need to find ways to break out of the paradigms that we're in.

One example of these would be to have programs that link land use planning, standards enforcement and energy efficiency programs. One could add renewables. This is about efficiency in this discussion. But one could add a comprehensive approach to moving forward, which is not the norm. The norm is individual programs with individual measures and individual metrics. And that's not going to get us all the savings we're after.

And then finally, we're proposing to improve integration for smoother implementation.

There's several policies. You'll notice that there's several state rules here. But there's also the 1992 Energy Policy Act, which governs the municipal utility behavior in terms of their reporting requirements at a federal level. And we have to integrate those with our state rules, as well.

And then there's individual POU and IOU processes, all of which we have to help get integrated so that we get on a timeframe that doesn't hurt everybody, but we can keep moving quickly. Right now our cycles aren't always perfectly aligned is a simple example.

You've been asking a couple of times today about the integration of the 2021 work with the scenarios project. In simple form we took the same baseline used by the scenarios project, which includes the other utilities that we did not consider in the 2021 analysis.

We plotted on this graph the same cases that they gave you earlier today. All of the four cases that were discussed, 1B, 3A, 3D and 3E, all the efficiency cases are plotted here. And then we plotted our four options by subtracting the savings from the baseline of the forecast.

Everyone follow so far? You can see that our option one in case 1B represent essentially the same point by 2016. Our analysis stopped in 2016.

And you can see that our option three, full economic potential, is lined up with case 3D which is the partial deployment of emerging technologies by 2016. They're lined up at that point.

What we figured out in discussing this with staff and with Craig McDonald, who did the work, is that the scenarios project looked at acquiring full economic potential between now and 2020. And we looked at acquiring it as being available to acquire by 2016.

Those extra four years of the time horizon plot out as being the same basic point with the blue line and the green line essentially matching up. Any difference that you see between those two lines is because there's some additional economic potential available from 2013 through 2016 that we did not account for.

We have not plotted the efficiency that might be available from emerging technologies. That's the green line and the orange line that you see on the graph. And when -- we've done mathematically the analysis to say that everything's internally consistent, but we didn't add that into our analysis for AB-2021. From our point of view, it would provide a cushion for picking a higher level of efficiency target by the Commission.

ASSOCIATE MEMBER GEESMAN: Have you reviewed with our legal office what the consequences potentially could be for such a wide variance with the requirements of SB-1037?

MR. KLEIN: I'm sorry, I don't understand the point. I understand the question, but I'm not sure --

ASSOCIATE MEMBER GEESMAN: It seems to me that if all of these utilities are required to have exhausted cost effective efficiency measures in their long-term procurement decisions before they purchase or procure conventional resources, and if we are in the course of adopting targets which, by their very design, your recommendation suggests that we not aim for the level contemplated by the statutes, isn't there some potential judicial remedy for that? Against us. Or perhaps against the procuring utility?

MR. KLEIN: We have not discussed that with legal. It's a great question. We should do so.

ASSOCIATE MEMBER GEESMAN: Do we really want to walk down this path?

MR. KLEIN: I think that the statute for AB-2021 also says that we have to look at cost effective and achievable.

ASSOCIATE MEMBER GEESMAN: Um-hum.

MR. KLEIN: So, --

ASSOCIATE MEMBER GEESMAN: So let's pretend at some point lawyers will actually look at this and review it. And they'll read the statute and they'll read 2021 and they'll read 1037.

MR. KLEIN: And one would infer from what you're describing that unless we pick the full economic potential inclusive of emerging technology as our target, we --

ASSOCIATE MEMBER GEESMAN: I'm not --

MR. KLEIN: -- we would be subject to a legal proceeding against us.

ASSOCIATE MEMBER GEESMAN: That may be an argument. I have no idea. I'm looking for some assurance that a judge won't say that

Commissioner Pfannenstiel and I, and the rest of our colleagues, did a bad thing in so consciously looking the other way.

MR. KLEIN: We have not had that discussion with our attorneys.

ASSOCIATE MEMBER GEESMAN: I would also like to make certain that some utility, relying on our procurement goals or efficiency goals, which happen to be significantly less stringent than their own, didn't find its procurement efforts tied up in a judicial process because of actions that this Commission took.

MR. KLEIN: I can't think of a single case where any of the proposals given to us meet the letter of the law for procurement that you've described. So I think that they're at risk in any event, along the lines that you've described. But I'm not the attorney here.

ASSOCIATE MEMBER GEESMAN: Well, we ought to get one.

MR. KLEIN: Okay. Agreed. We shall do so.

We now have three case studies that we'd like to share with you. And I'm doing a time check. It is now noon. It is our expectation to get through the case studies by about 12:30. But we still haven't had time for questions and answers from the public participants.

What is your pleasure, Commissioners?

PRESIDING MEMBER PFANNENSTIEL: My pleasure would be to see what questions we have from the public on what has just been presented. And then break for lunch before the case studies. I think that's a new area that I'm interested in doing, and I'd like to do it after lunch break. But I would invite now questions or comments on the presentation.

If you have a question or comment, please come to the microphone.

MS. WANG: Good morning, Commissioners. My name is Katie Wang; I'm with Rocky Mountain Institute, also known as RMI. I just have a couple of comments.

The first one being that I absolutely agree with Mike's recommendation that the goals that are set for the POUs should be on an individual basis, not a blanket set of recommendations. Because the POUs are quite diverse, with a number of utilities, specifically the larger ones, having been implementing DSM for many many years, while some have only just begun implementing DSM activities for a few years.

I also have one comment of clarification around the statement that there was specific guidance from us on setting a target for achieving potential 50 percent of economic potential.

In the model that we created for the POUs for estimating achieving or feasible potential we provided three scenarios for them to work from. One of them being the historical -- what the utilities, POUs, have been doing historically.

Another one being the number of measures that make up 80 percent of economic potential that would be feasibly achieved. And the reason for that one is to set up the list of measures for the utilities to be able to adjust individually in terms of what they feel they could feasibly do realistically in their service territory.

So, for example, if, for the third scenario, we had set up the entire list of 100 percent of the measures for the 100 percent economic potential, the number of measures would have been quite long and large. And we kind of wanted to narrow down the number of measures that was manageable. So we set a third scenario as 80 percent achievable.

And then the last scenario that we provided for them was what I had just begun to describe, was called the user specified scenarios. To give the utilities the option to -- because they know better than we do, you know, the nature of the customers and what the limitations on their budget and staffing, what they feel they could do each year, to adjust what they think for each of the technologies, how much they could achieve every year. And by default, the default setting for that last scenario was a 50 percent of economically achievable target.

And during the workshops that we worked with them, we highly encouraged them to modify that particular scenario so that it was appropriate, most appropriate for their service territory. But that was not, in any way, an explicit advice or guidance to say that you should use the 50 percent target, which we provided for them, as the default value.

So I just kind of wanted to make sure that that statement was clarified and understood, the context of the service that we provided for them.

And lastly, I have a third comment on the point that Mike and Gary made about the fact that many of the utilities have increased the number of sophistication of the inputs that are providing on the economic data and the technical data for estimating these, making these potential estimates.

However, I think it is true that a lot of them are still kind of using their own definitions for sort of what, in terms of quantifying, for example, what is the marketing cost, or what is the program cost aspect of the DSM programs that they're implementing.

That, in addition to, for example, defining what avoided costs and how do you come up with a number for avoided costs for each individual utility would be useful to develop some common definitions. For example, what constitutes a program cost; to arrive at some common ground for developing that data, those types of data, in the future.

Thank you.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Other questions? On the phone?

MS. SPEAKER: Eric Wanless from NRDC.

PRESIDING MEMBER PFANNENSTIEL: Okay. Let's take the questions in the room first; and then we'll go to the phone.

MS. TRELEVEN: Good afternoon, Commissioners and audience. I have just an apology and a question.

PRESIDING MEMBER PFANNENSTIEL: And would you introduce yourself?

MS. TRELEVEN: I'm sorry; I'm Kathy Treleven from PG&E, State Agency Relations.

I wanted to apologize that we weren't able to get one of our gurus here today, Bill Miller. The CPUC has an ongoing today on some energy efficiency questions. And so we weren't able to get him. But we do have staff looking at the report and listening in. And we hope to get you some comments on both the strategic side and on the technical piece today.

And the other quick question I just had of Mike Messenger, as another of the gurus in the energy efficiency field. We just wanted to check that your comment that perhaps the shortfall that may come from your more realistic projection for the POUs, your comment that that shortfall might be made up by the IOUs.

I wanted to see if that was just illustrative, or represented some more thinking about the Itron study and other data.

MR. MESSENGER: It was just an illustrative comment. The reason that I think some of the shortfall might be made up is that I went back and applied the same methodology to the IOUs that I applied to the POUs. And I would arrive at slightly higher savings goals in 2012 to 2016 because we'd be starting anew. And essentially having to double again from now until 2016.

And given that that looked like it was still within the envelope of economic feasibility, it might be feasible.

But I don't think it would make up the entire shortfall. I wasn't trying to say that. But I'm just saying that there's room to revisit the IOU savings goals for those last three years.

MS. TRELEVEN: Thanks, I appreciate it.

MR. McLAUGHLIN: Good morning, Commissioners. Really quick comment. Bruce McLaughlin representing the Power and Water Resources Pooling Authority today.

And we did file our implementation plan with the Commission. We worked together with Mr. Klein. Got our numbers in a little bit too late to get in this report. So I think that we'll be getting into the final report. And that's it. Thank you.

MS. HORWATT: Good morning, Commissioners and everybody else in the collective audience. I'm Andrea Horwatt from Southern California Edison. And I just wanted to make a couple comments on the way that we've been using economic versus achievable potential in our discussion this morning.

Really a point of clarification. Historically in the IOU programs, as you see reflected in the Itron potential study, the focus has really been on voluntary programs requiring customer choice. Customers elect to participate in those programs.

Hence, we have focused on achievable potential in the work that's been done in the Itron study and in our long-term procurement plans.

The concepts of technical and economic potential really are divorced from that aspect of customer achievability. It's really what's technically feasible from an engineering perspective. And then what portion of that is cost effective per the TRC. Customer choice doesn't enter that at all.

And to really approach anything beyond what we've estimated is achievable potential you're stepping into the realm potentially of programs that, using Commissioner Geesman's language, would be outside the IOU prism.

It would be other types, whether it would be codes and standards, or other types of programs that would transcend the kind of rebate type of program. Or programs not strictly voluntary on the customers' part.

So I think that's something that we just need to bear in mind in our thinking going forward in terms of from a policy perspective, what types of programs we're going to focus on going forward.

My other general question concerns the area of emerging technologies, which, as a forecaster, are always a two-edged sword for us. They offer great potential for the future, and that's where the growth will occur, enabling us to achieve even higher levels of energy efficiency.

The challenge is in knowing when these technologies will be more than a laboratory curiosity and will, in fact, be in the marketplace.

Like Mr. Klein, I've been involved in potential studies since the 1990 timeframe. I recall one that I worked on in that timeframe that had significant potential. It's something called microwave dryers. This was based on an analysis and some prototypes that were built and some projections of cost trajectories.

That technology some 17 years later still is not in the marketplace. So I think we need to temper any of our forecasts with some healthy dose of reality.

And we will be filing some written comments, as well.

MR. WHEELER: Good morning, Commissioners. My name's Michael Wheeler from the California Public Utilities Commission. I thank Ms. Horwatt for taking care of my first point.

The second point I wanted to make was that I think it's a key element of discussing potential and discussing goals to decide whether we're talking about gross target or net targets.

And I wanted to clarify that the California Public Utilities Commission's energy efficiency goals are net, meaning net of freeriders. And it's important to recognize that the 2006 Itron study discussing economic potential is discussing gross potential.

And it's important to consider whether or not you would look at that potential and decide that some of it might occur on its own, or from people that would already take those steps on their own. Rather than assume that it's all available from -- well, it's also another thing to remember that certain market effects occur when programs are initiated. And that those market effects might not -- you might not be able to capture all the savings as verifiable from specific utility programs.

And so it's important to decide whether you're measuring on a gross basis or on a net basis. And that's important from the beginning, comparing what's available out there right now and what might occur on its own, as programs begin.

Thank you.

MS. BESA: Good afternoon, Commissioners. I'm Athena Besa with San Diego Gas and Electric and Southern California Gas Company.

First of all, we appreciate this opportunity to provide comments on the staff's workshop report. And first of all, we'd like to reinforce that SDG&E and SoCalGas strongly support energy efficiency savings as a means to offset greenhouse gas emissions. And that EE, energy efficiency, is a valuable resource in meeting the state's energy needs.

Having said that, it is very important to insure that the goals set represent both an aggressive action towards meeting the state's requirement, but at the same time are set at reasonable and achievable targets.

There's a lot of terminology that's being thrown around; there's economic potential, technical potential, what's feasible, what's achievable.

But in reality if the state's recommendation is to set targets of 80 percent of economic potential, as provided in Itron's report, for example, for the IOUs, the recommendation however does not speak to other information that is in that Itron report.

For example, it shows what the average

incentive cost brings to the table, which is the current state of the IOU programs. Or even the scenario when we actually pay for 100 percent of the measured costs.

And once you put in the 100 percent measured cost payment that either the ratepayers are funding so that we can achieve this, we only achieve less than half of what is economically feasible.

So that to just think in terms of economic and technical feasible, it's really not reality in the market. A lot of these programs are voluntary, especially the IOU programs. And so it depends a lot on customer and consumer behavior and what's going on in the market.

If the market trends are showing a downturn in the economy, interest in energy efficiency, for example, in the new construction market, starts going down because building opportunities go down.

On the other hand, companies and residential customers are trying to figure out how best to meet their other needs besides immediately investing in energy efficiency if there's no need for them to immediately replace their equipment.

I know that they talked about probably not considering emerging technologies as part of what is feasible at the moment in setting the target. But that is potentially an opportunity to fill the gap. But then emerging technologies, as Edison pointed out, always depends on where it is in the timeline of when the programs are being implemented. And at the same time, what kinds of measures are actually out there.

For example, a very high profile measure that's being talked about a lot is compact fluorescents. So, to the extent that we are enforcing and promoting compact fluorescents, both from, you know, a screw-in perspective, and also an actual fixture replacement, at the same time LED type lighting technologies are also emerging.

And so when you're balancing what we're pushing versus equipment that's going to come up in the near future, but then we've already installed so many of these compact fluorescents with a measure life of say three to five years, that customers who have actually invested in that are not interested in immediately looking at LED technologies.

Also, as we keep putting in measures and appliances and equipment that have long-term measure lives -- for example they can range anywhere from one year to 25 years -- as we're installing these types of measures at this point in time, any new technologies that are coming along within that measure lifecycle, customers are not interested in replacing them as much.

So, trying to figure out if emerging technologies actually fill the gap, the predominant end uses, is probably not going to be a solution. It's probably better for emerging technologies to actually look at end uses that are not the traditional places that we're looking at.

Another example, as the PUC representative, Michael Wheeler, said is the IOUs are talking about net savings, which is pretty much net of freeriders. We assume that customers would have done this on their own, are part of the nationally occurring savings. And therefore, the utilities, although we paid for these customer participation, were not able to take credit for these savings.

And the gap between the growth and the net can swing largely in part to the type of measurement and evaluation techniques that are available. And so you can go from a freeridership of 10 percent all the way to 50 percent for the same type of program that customers are either strongly participating or not.

So if you have a big push for some of these types of measures, so that customers -- we're offering high incentives for, and so that we can get higher saturation, then the probability of getting more freeriders into the program is higher because we're just making it easier for customers to participate. But at the same time, the utilities are not able to take credit for the wider participation in the program.

And last, but not least, for future planning purposes, since it is a two-year cycle, we're setting ten-year goals, it's really important, as Mike and Gary were saying, that we have a structure in place that actually reports the actual achievements and benchmark the potential on a regular basis so that we can actually make sure we're really achieving savings as opposed to paper savings.

Thank you.

MR. PARKS: Good afternoon; I'm Jim Parks from the Sacramento Municipal Utility

District. And first off, I did want to commend staff on doing a really good job on the report. As I read through the report, I found it pretty easy to use, and the information was clear. And I especially liked the charts that kind of showed what each utility is doing individually.

And SMUD established very aggressive goals. And according to the report is the most aggressive in California. And so when I look at the report and saw that we were doing 71 percent of economic potential, and that there was a proposal to actually require 80 percent of economic potential, I was a little concerned. Because we felt like our goals were stretch goals, and that we may have -- I don't want to say major trouble achieving them -- but it would take a real effort to achieve them. And didn't want to see anything come out that would say, hey, you're not doing enough, you need to go beyond that.

So I was actually glad to see the report from Mike talking about actually toning it down a little bit. It's not very often you come in with some aggressive goals and someone goes, not only have you done enough, but we're going to reduce your goals.

And so I'm not saying I'm in favor of that, per se. We would still aggressively pursue our goals. But it was kind of a surprise.

So I guess what I'm trying to say is I'm not in favor of doing the 80 percent of economic potential as a goal. I basically think that's unachievable.

When we looked at our goals we looked at the maximum market potential, which was basically what we could get if we covered 100 percent of the incremental costs of those measures. And we set a goal that was beyond that.

And even though that theoretically, that 80 percent range is cost effective, I really don't think it would be cost effective from a program perspective, as we would have to increase our expenses dramatically to get a smaller increment of savings.

And so I think if we were looking at it from, I don't know if you want to call it the 80/20 rule or something like that, I think that there's a certain point where you're going to spend a lot of money to get very small savings.

And I think what staff has proposed is a good proposal. And so I support that.

Also I support looking at the larger municipal utilities. I think some of the smaller munis have, you know, different things that drive them. And it's going to be a little difficult for them to achieve high savings.

I know of one municipal that has 90 percent of their load from one customer. Now, if that customer doesn't want to participate in energy efficiency programs for some reason, there's just absolutely no way they're going to get their goals.

And so I think we need to look at each of those smaller munis individually and not be overly aggressive on those.

And I think I'll conclude with that. So, thank you.

MR. AMBACH: Good afternoon, Commissioners. I'm Gary Ambach from the Imperial Irrigation District.

As a result of our discussions with the Commission Staff, Mr. Messenger and others, we revised our goals from what they appear in the staff's draft recommendation.

Our goals now provide a ramp-up from where we are today in 2007 for about the next three years. They still achieve 1 percent savings over the ten-year planning horizon, but there is a period of three or four years where we ramp them up to a different level.

We provided these goals to Mr. Messenger and to Mr. Klein, as well. Thank you.

ASSOCIATE MEMBER GEESMAN: Let me say on that point, you may want to carefully consider whether the individuals that you communicated with on the staff accurately reflect what the full Commission is likely to do with respect to targets being set.

PRESIDING MEMBER PFANNENSTIEL: I think we -- now, Eric?

MR. WANLESS: Yes. This is Eric Wanless with NRDC. And first I'd just like to commend the CEC Staff for the hard work on this issue. I've been working a lot with Gary and -- Mike, and certainly appreciate the -- they're putting in.

I'd also like to commend the POUs, and in particular, NCPA for the leadership that it's shown forming a large part of the POU effort.

I'm going to hold my comments on the broader issues in terms of the proposed statewide targets to the panel this afternoon. And right now I'm just going to comment on some of the issues raised in the presentation.

I originally wasn't going to talk on this, but since it came up I want to touch briefly on the load forecast for the IOUs. NRDC, in our comments in the demand forecast (inaudible) and I think we've been working with Gary to try and figure out exactly what's going on.

But it's our impression that the load forecast for the IOUs does, in fact, contain significant amounts of energy efficiency that are coming from uncommitted programs.

And I think that's probably why we were shown today that more than 100 percent reduction -- or offsetting 100 percent load growth with the IOUs. But that's something that we're working with Gary to resolve. But I just wanted to note that, as it was brought up.

On the presentation, we're very pleased to see that the Commission's been working with individual POUs in the target-setting process. And that the staff's evaluated targets for specific POUs.

This process is certainly going to help the CEC meet one of AB-32's provisions which requires the Commission to make recommendations to the POUs, the Legislature and the Governor if it's determined that improvements can be made in the level of the locally publicly owned utilities annual target to achieve all the cost effective and reliable -- energy data, and demand reduction.

We're happy to see that the Commission's been working with individual targets. I think that's important to have a target for each utility specifically, and to work with them in evaluating them.

In terms of the ramp-up rates that were proposed, I believe that it's appropriate to evaluate the POU's ramp-up rates for feasibility. And, again, I commend the work that the staff has been doing to evaluate these ramp-up rates.

I don't think that applying the ramp-up rates experience is appropriate across the board. And I believe that particularly for some of the applying these constraints of the 13 largest POUs may be yielding a somewhat inappropriate result.

For instance, the proposed ramp-up -- excuse me, Mike's proposed targets evaluating ramp-up rates for such large utilities as SMUD, LADWP, -- Valley Power and IID, that leave them recommendations that lower targets due to the ramp-up rates, is somewhat inappropriate.

We believe that these utilities are pretty large, and they have neither the experience with energy efficiency programs nor the institutional resources to significantly grow their energy efficiency programs.

And we don't believe that in applying this rigid constraint is appropriate, especially if the CEC is working with the specific POUs. Staff is talking to the POU staff and has worked through their assumptions and -- targets, I don't think it's appropriate for them to limit the targets based on ramp-up rates constraints.

The other comment with regards to the ramp-up rates is that the proposed staff targets in Mike's presentation result in a POU capturing pretty widely variating portions of their economic potential.

And I think for our part we would suggest that each POU's target capture at least 50 percent of their economic potential over the ten-year period.

And I think -- ramp-up rate is fine, but we want to make sure that we have somewhat level footing in terms of the -- potential across utilities.

Some other -- as the ramp-up rates is we strongly support the staff's recommendation to develop a program tracking system and definition of what independent evaluation of programs is. That's a very important component to this.

And in terms of improvements for the next cycle, I think in addition to encouraging programs that, you know, link such things as land use planning, standards enforcement and so forth, that the Commission also encourage the IOUs and the POUs to collaborate on a program offering as much as possible in a statewide context for significant economies of scale and -- market transformation potential.

And also coordinate with the nationwide consortium for energy efficiency.

And I think those are all my comments on the presentations. Thank you.

PRESIDING MEMBER PFANNENSTIEL: Thank you, Eric.

It's about 12:30. I suggest that we break for an hour, and then come back for the POU case studies and the remainder of the afternoon session.

Thank you.

(Whereupon, at 12:29 p.m., the Committee Workshop was adjourned, to reconvene at 1:30 p.m., this same day.)

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AFTERNOON SESSION

1:32 p.m.

PRESIDING MEMBER PFANNENSTIEL: Good afternoon. I believe we're ready to reconvene, and we'll start with a panel on public utility case studies. Gary, are you introducing this?

MR. KLEIN: I am, yes. Thank you very much, Commissioner.

We have three speakers that have volunteered to talk with us today. They represent three very different utilities. Our first speaker will be Rob Lechner who represents Lodi, and is sort of a medium-sized public utility in the scheme of what we're evaluating this year.

Jim Brands will be following him. He's a consultant with Energy Services Group that's supporting four of the smaller public utilities in the state.

And then finally Craig Kuennen will be discussing Glendale, which is one of the larger public utilities.

We hadn't heard from any of these before, and I thought that it would be useful to get some of their perspectives.

They're fundamentally looking at two

questions that they're going to try and answer in their discussion with you: How did they translate their potential into goals. And how did they turn their goals into programs. Thank you.

Rob, it's yours.

MR. LECHNER: Thank you, Gary. And good afternoon, Commissioners and members of the audience. Just by way of edification on page 22 of the staff report we're that small little block of 26 POUs. So it's a small little slice. That's for myself and Jim. I won't speak for Craig at the end of the line here.

First off, good afternoon and thank you again for allowing the City of Lodi Electric Utility to participate in this process and share some of our comments with you.

By way of introduction, I'm the Manager of Customer Service and Programs for the City's Electric Utility Department I've been with the City for just a little over nine years. And the responsibilities range from energy efficiency, renewable energy technologies, new and emerging technologies; key account rep for the roughly 5000 commercial and industrial accounts. Some level of rates and resources, new program development.

And then the other hat that I wear is overseeing our meter reading group, field services group and credit collections.

So when I leave here I'm going to be with our city attorney on a totally unrelated project. So I may have to bolt on you at the end of this presentation, but I'll stick as long as I can.

Lodi Electric Utility has been in business since 1910. We have about 12.5 square miles of service territory. We serve roughly 25,000 residential and 5000 commercial and industrial customers. Our two largest customers consume about 9 megawatts of energy per month. Based upon the 06 megawatt hours sales, 75 percent of our power is provided to commercial/industrial accounts, and 25 percent to residential.

Lodi Electric Utilities maintains an aggressive public benefits program, in our opinion, since late 1998. No reflection on when I started, but that is when I started, so I'll take credit for it.

In the past eight years in excess of 10,000 of our customers have, in some form or another, received a rebate, participated in one of our energy audit programs, come to one of our workshops, et cetera. So we think we've done a fairly nice job in getting the message out and working with our customers across the board.

Our total projected public benefits fund collected for this fiscal year which runs July 1 through June 30th, is $1.7 million. And that's an important number to remember because that's the 2.85 percent as set in AB-1890 years ago, is what we transfer to the public benefits fund, which I'm responsible for.

And those dollars are truly spoken for. The local pot that I have jurisdiction over, if you will, for admin costs, marketing and customer rebates is about $700,000 a year. The rest goes for our Geysers effluent project, which is a renewable -- qualifying renewable project. As well as our low-income rate discount for our low-income customers. And it's a 30 percent monthly rate break that we give to that customer core.

Currently Lodi offers a series of programs that are funded through the public benefits program. They range from online and onsite energy audits for small commercial and medium size commercial and residential customers.

We do offer audit assistance for our large industrial customers, but we urge them to hire a third party vendor and then we do kind of a -- check on the report that they preset to us and verify the numbers in that energy audit. But they have to get a trained, engineered energy analysis to us from a third party ESCO.

We do six energy smart workshops annually. These are done every other month. They're free and open to the general public, and on these topics. They're generally two hours on a Monday night at our community center. Range from renewable energy resources, solar and wind technology, to energy conservation tips, prepping your home for the summer months, prepping your home for the holiday and winter season.

And these are well attended. We get anywhere from 75, 100 people up to as many as 450. We made the grave mistake of showing the film "Who Killed The Electric Car" back in January. We set up 200 chairs and we had 450 people show up. It was standing room only. And by the way, I only got one negative comment about the event that night.

So our events to the general public are

wide and varied, but are indeed funded through public benefits.

We do what's called the solar schoolhouse program. We provide information, classroom solar-related activities in grades K through 12. We do the annual Lodi Solar Olympics. We're the second utility in the state to offer this. It's an annual event that draws about 400 students in grades K through 12 to participate in various solar-related competitions. Solar ovens; small little houses that they build that are powered by solar; fountains and little race cars, which is kind of a cool little competition that we have.

We also offer the Lodi living lives project which we provide to 420 sixth grade students, energy efficiency kids, which we do a presentation to the students. Then they go out to their home and they install these kits and there's some learning devices associated with that.

So we're starting to groom the younger generations on how to be more energy efficient.

We also offer the Lodi green energy education program for students in grades K through 12. This is where we simply sit down with students in various classes in high schools in Lodi and talk about the future of energy, why it's important to conserve and what they're going to be using in the future, shy of candles and flashlights to survive. So it's kind of a nice way to dialogue with some of our up and coming leaders.

In terms of energy efficiency rebates and programs we do provide rebates, which most utilities in the state do for EnergyStar appliances. These are residential. Installation of shade screens, window tinting, radiant barriers, attic and wall insulation.

We also provide the Lodi HVAC system performance test. And this is one of the ones we're most proud of. And speaking of the 10 percent bonus, and a little recognition, I'd love one for this. So if we get that duly noted by the court report, that'd be great.

This is a test we're very proud of. We're the second utility in the nation to offer this. It's a computer diagnostics test; and it's truly the generation way way way beyond the duct blaster test. If you're familiar with duct work in a home, it's what delivers the air in your home.

We decided a number of years ago to stop providing rebates for central air conditioners. We decided instead we'd offer rebates and incentives for customers that do this diagnostics test, which is a room-by-room airflow/air return analysis, and provide rebates for repairing or replacing duct work in the home.

Our logic there was if you incentize a customer to go out and install a high efficiency air conditioner, quite frankly you're throwing good rebate money after bad. We, this year, just changed our mind slightly. We're going to offer rebates for 14 SEER units or higher. However, you must participate in the test and show us some willingness to at least look at the duct work and address that.

The analogy we use for our customers, it's like going out and buying a Prius and saying you're going to get 55 miles to the gallon because it's a high fuel efficient car. But you fail to put proper air in the tires and so there goes your gas mileage, your maintenance and safety goes right down the tank.

So the duct system operates the same way in a home. So we want customers to be very cognizant of that and get aggressive with it. So it's a program again we're quite pleased with.

For commercial/industrial customers, provide rebates for lighting retrofits, process equipment improvements, chiller and HVAC retrofits, and some building envelope improvements.

A lot of those have been addressed in the last year or so under Title 24. So we used to offer rebates for cool roofs, et cetera. But we will still offer those for retrofits, but nothing on new construction.

In addition, we do utilize the public benefits program fund, as I mentioned earlier, for low-income customer assistance. It's something we call the Lodi share rate discount. That's a 30 percent rate break on your monthly utility bill.

We also offer the Lodi care package program, which provides a grant of up to $90 once every six months for customers that are 20 percent below the published income guidelines. This is a one-time, or once-every-six-month kind of hand-up and hand-out to a customer that's having a hard time paying their utility bill. We pay the electric portion of a City of Lodi bill.

We also utilize PB funds for program marketing outreach, sample product giveaways, program administration costs, my salary, my time to get up here, et cetera. And we also factor them into our cost.

In order to lead by example, which we think is important as a government agency to do, Lodi has truly been on -- kind of out there in the forefront, in our opinion. In the past eight years we have expended quite a bit of public benefit monies. We've done everything from retrofitting all of the traffic signals in Lodi to LED technology. And that includes the pedestrian signals. We even did it before Caltrans had signed off on some of the appropriate colors. But working with some folks here at the CEC we got that thing through.

We've also retrofitted all of our park and athletic field lighting to lower wattage lamps and new ballasts. We've installed motion and occupancy sensors in most of the city facilities, most recently city hall.

We've also installed new energy management systems at our community center. And later this calendar year we're funding, through public benefits, a retrofit of the Lodi Library project. It's a lighting retrofit. And it's going to save about $1000 per month in utility costs in a payback of a little less than three years.

We've also enjoyed, just as a side note, a very good healthy relationship with the CEC over the years. We worked with Mike Messenger, in fact, and his team on a LED traffics and conversion committee. We've assisted in the distribution of SB-5X monies. In several industrial customer workshops we've partnered with the CEC to offer those to customers not only in our service territory, but neighboring utilities.

And currently I'm serving on an energy education subcommittee with the CEC where we're looking at all utilities in the state and what energy education programs they offer to their given community.

In regards to AB-2021, and I know we're not necessarily here as a panel to talk in great detail, but just a few comments if you'll allow. We applaud the state for its continued aggressive stance with energy efficiency. Not only as a national leader, but quite frankly as a worldwide leader. We think that's some good stuff to be doing and we're very supportive of that.

As a member of the Northern California Power Agency, NCPA, Lodi Electric Utility aggressively reviewed the requirements of AB-2021. And we've studied our various program offerings. And based upon our experience and our expertise, we also studied our potential growth opportunities. We, to the best of our ability, submitted energy efficiency targets that we felt were truly achievable today, next month, a year from now, three years from now, out to ten years.

At this stage we're confident that the numbers or goals that we've set for ourselves are truly achievable. Frankly, we'd rather come back to you in three years saying, well, we actually achieved more than we had thought. And that would be a good thing, rather than coming in below our target and setting a target that we simply could not reach.

A note that I think is important, too, is that as a utility rep, you can create all the innovative, creative, unique programs that you want, and offer rebate dollars for them, but there's never a guarantee that you're going to get takers for the dollars, the experience and the expertise you're bringing to the table.

And as my boss likes to say, you can lead a horse to water, but you simply can't make it drink. And we've experienced that. And there's one example I did want to share with you. And frankly it's going to blow my SB-1037 numbers later this year when I do my filing because I was really hoping this customer was going to do this project.

I'm going to not name the customer, but we do offer large rebates, they're only up to $10,000, but it beats a poke in the eye with a sharp stick. And we offered a rebate to this customer. they were right on the cusp of moving ahead and installing a lighting retrofit.

The total out-of-pocket cost to the customer, after our $10,000 rebate, was $78,000. The projected energy savings were 230,000 kilowatt hours in a year with a demand savings of 51 kW. And the actual dollar savings for the customer was about $38,000 a year. And this is one of our top 20 energy users in Lodi. The simple payback was just under 24 months.

In the eleventh hour with my money on the table the customer bailed. They chose not to pursue that. And I shall also tell you that the third-party contract that was going to do the install on this project searched high and low for funding for this customer. And at the last hour actually offered a no-interest loan to build the project. And the customer said no.

So, it begs the question for me, as a utility rep, what did we do wrong, or what do we need to do differently in the future. Is it incentize with more dollars? We used to do that. And the takers weren't necessarily any greater than they are today.

So, it's a challenge for us and it's one we're not done resolving yet, but we're going to figure it out. But that's just an example of some of the challenges we do and can face out in the field. It's not necessarily a bad thing; I think it's something we can achieve and overcome. But it's challenging for us.

From an energy-savings perspective, both short- and long-term, we do advocate the following: An aggressive sharing of ideas and programs. I noticed on one of the charts, one of the slides that Mike and Gary had before the lunch break, they talked about some databases and some spreadsheets and some computer sharing, if you will, of information.

I would take that a step further and suggest that what we should have, or I'd like to see have, and happen is a pool of utility rebate programs that are online. That we can go to one location and say, oh, that's what Los Angeles is doing; oh, that's what P&GE's doing; or Glendale's attempting to do this with the program.

But if we had that sharing of ideas, because some utilities, I'm kind of a one-man show in Lodi; we're somewhat short staffed. That's not a complaint, it's just it is what it is. But, if we had a sharing of ideas that we could just tap into some internet database I think that'd be truly useful to a utility like me.

We have often leaned on what we refer to as Big Brother, which is SMUD, for a lot of our program ideas. And they've actually kind of come to us and looked at some of our ideas, as well. So the door does swing both ways. But that's one thing we'd suggest.

And lastly, I guess, speaking just on

behalf of Lodi Electric, we would welcome any and all assistance from the Energy Commission. Again, as I stated earlier, we do have a good working relationship. We've tapped into this resource before. And we would love to invite the CEC Staff at anytime to come on down and lend us a hand to make our programs better. Because ultimately it helps with our customer base. And what we can do better for our customers, everybody wins.

That basically concludes my presentation. And I'll answer any questions now, or hand it over to Jim Brands. Thank you.

PRESIDING MEMBER PFANNENSTIEL: Why don't we continue with the panel, then we can see if there are questions for the whole panel. Thank you.

MR. BRANDS: Good afternoon. My name is Jim Brands. I work for a small utility consulting company, Efficiency Services Group. We currently administer the public benefits programs for the Cities of Gridley, Healdsburg, Shasta Lake and Ukiah. To put the size of these four utilities into scale, their combined peak demand is approximately 100 megawatts. So they're very small utilities.

And as you can see from the subtitle of my outline, the focus of my comments today will be on how these four small utilities are working to comply with the new California legislative requirements, and how my company, Efficiency Services Group, fits into that effort.

For the history. To begin with it's important to note that even though the title of my outline infers that these utilities are starting from zero, that's not quite the case. As a matter of fact, they've all been engaged in some form of public benefits efforts since the enactment of AB-1890.

Specifically they've all collected 2.85 percent of the retail revenue for public benefit program purposes. They've established line items in their budgets for the four major categories for their public benefit programs or offerings in energy efficiency, renewables, low-income support, RD&D. And have tracked these expenditures on an annual basis.

They have worked with their city councils to develop and deliver energy efficiency and renewable energy efforts. A lot of these efforts have been what I'll term project-based rather than in the form of ongoing programs. This has included things like CFL give-aways, or discounted pricing on CFLs, working with local vendors. PV projects, lighting upgrades on schools and city facilities. Overall energy efficiency upgrades on public buildings, et cetera.

And the fourth thing they've done specifically is provided periodic reports back to their city councils on public benefit expenditures. Because of the public nature of public benefit programs, the city councils are very interested in how this money has been spent. So they aren't exactly starting from zero.

But regarding recent changes, the enactment of SB-1037, AB-2021 and SB-1 have created compliance challenges for these small cities. The major challenges have been, first, developing accepted activity reporting mechanism for their energy efficiency activities. This has required them to coordinate with other California municipalities and hire, through NCPA, the development of a uniform reporting tool which we now refer to as E3.

The second challenge is developing

programs, not just offerings, that will one, provide access to programs for all their citizens; two, attract the attention and interest of their citizens to participate; and three, deliver cost effective kWh and kW demand reduction.

The third challenge is establish in more detail and specific budgets to help manage specific programs. This has required them to break down their current budgets into smaller increments and track these costs much closer than before.

The fourth challenge is developing and adopting annual performance targets related to kWh savings and kW demand reduction. This has been accomplished with the help of NCPA and the Rocky Mountain Institute.

And the fifth challenge has been improving tracking and reporting of activity in order to insure compliance with new reporting requirements, and help assessment of efforts to reach the adopted performance goals.

This work tends to be time intensive and requires some background and experience in the field. However, at the same time these cities realize that because of their size they didn't need, nor could they justify a full-time position for this work. So they were faced with a decision, and had to ask themselves a couple of questions.

First, can we somehow do this work with inhouse staff. They looked at a couple of options. Can we build these duties into a current person's responsibilities; or two, could we hire a part-time person to help with this work.

Or, as an alternative, could we contract this out. And if we contract it out, how do we go about deciding the process for hiring help. These are the kind of things that they've been working through over the last several months.

Obviously the conclusion that the four ultimately decided upon was to seek contract help. And that's where my group, Efficiency Services Group, came in.

We are a group of long-time utility professionals who have specialized in the development, implementation, management, tracking and reporting of energy efficiency programs for utilities in California, Oregon and Washington.

We have three utility specialists, an office manager and use the services of a network of contractors up and down the west coast, and renewable energy experts to assist on an as-needed basis.

We have three principal partners. I am one. I have 28 years of electric utility experience in marketing, sales and program management and implementation.

Partner number two has 27 years of experience in development, implementation and operation of programs for investor-owned utilities. My experience, by the way, was both working for an investor-owned utility, Pacific Power and Light; and one other small municipal utility in Oregon.

Our third partner has 30 years of experience in technical support and training for contractors, technicians, and the like.

But in order for us to be awarded contracts to do this work we had to go before the city councils of Shasta, Lake and Gridley for contract review and council approval. And we had to respond to an RFP that was put out by Ukiah, which was eventually used by Healdsburg, as well; as a way to leverage their public benefit budget in collaboration with Ukiah.

And to be evaluated in comparison to the other responses they received. Ultimately given the value that we proposed for the price that we charge, Gridley, Healdsburg, Shasta Lake and Ukiah opted for contract help and hired -- and opted specifically to hire us to help them administer their public benefits programs.

As a side note I should mention that Gridley and Shasta Lake, we had been working for for a few years. But Healdsburg and Ukiah we've only been working for for a few months.

And our services to the four utilities are basically the same. We provide a toll free hotline number for customers to call with questions about programs or general energy use. We do program development work for them. We provide program information that can be used to announce and promote the startup of their programs.

We handle all aspects of program activity scheduling; customer interaction and paperwork processing, as directed by each city. We provide onsite energy auditing services and/or oversight, as required, and mutually agreed upon for residential, small commercial, mid-size commercial, large commercial and industrial customers.

We do tracking and monthly reporting to the cities on all their program activity. And then we provide them -- we report back -- we do reporting directly or provide to the city the information required for state compliance.

So, working toward compliance. As the new legislation has been enacted, we have spent several hundred hours working with Gridley, Healdsburg, Shasta Lake and Ukiah to help them comply with the new reporting requirements. And to continue or start up the implementation of their programs.

The current program offerings for the cities are listed on your outline and include commercial lighting, residential lighting, appliance rebates, residential HVAC upgrades, residential shell upgrades, commercial HVAC, refrigeration and motors.

Projects. Industrial projects, and because of the size of the cities, those projects obviously are -- there's a very limited number of them available.

And then SB-1 and an SB-1 compliant PV

program.

In addition to the hours we spent to develop the programs and work with the councils, we've had to meet with the finance managers, the utility directors, and city councils for not only public -- or for program -- to agree on program offerings, but also to discuss and agree on budget levels for those specific programs listed above. Because, again, in lots of cases, in all cases they did not have budgets broken down specifically by programs. Just had it clumped under public benefits and broken into the four specific categories that I mentioned earlier.

So we spent a lot of time with the Rocky Mountain Institute, NCPA and these utilities to help them develop and get council adoption of their kWh and kW targets to comply with AB-2021.

We've also had to develop and get approval from staff and councils for PV programs that are incented, budgeted and operated in compliance with SB-1, as best as is currently possible.

And finally, we've developed and/or improved monthly reporting tools that allow our utilities to track and report program activity far better than they were able to do before.

So, where are these cities now. In the past few months, all four cities have responded by putting energy efficiency programs in place; and adopted budgets that should allow them to reach the targets that they either adopted or will soon adopt.

Two of the four cities have already received council approval for their targets. And the other two, Shasta Lake and Ukiah, will be presenting their targets to their councils within the next ten days.

In addition, Gridley, Ukiah and Healdsburg have PV programs in place. And Shasta Lake is on schedule to have theirs operational by the end of November in compliance with SB-1.

Our working arrangements with all four cities has now been tested for awhile. And there's a clear understanding of how we perform our responsibilities to help them achieve their targets.

So we, Efficiency Services Group, and the cities, Healdsburg, Gridley, Shasta Lake and Ukiah, are ready to move ahead.

Thank you.

PRESIDING MEMBER PFANNENSTIEL: Thank you.

MR. KUENNEN: Good afternoon, Commissioners. My name is Craig Kuennen; I'm with Glendale Water and Power.

Basically I'm the PBC Marketing Manager. I manage 24 programs, low-income, energy efficiency, renewable energy programs. Our budget last year was about $6.7 million. Of that about half of that was energy efficiency.

My background before this, I spent about four or five years with the PhD program, the Center for Energy Environmental Policy at the University of Delaware, in about six years, fighting for low-income causes in Pennsylvania.

So I was asked to give the answer to the first part of the translating potentials into goals. And I'll say a little bit about our programs afterwards.

I did have a presentation here. I'd like to thank the staff, your staff was really helpful. It took me a little while to figure out what they wanted, but we got it together.

So translating potential into goals, you know, how did we set our goals, what process did we go through. Next slide.

Basically the process. We looked at our past program experience. We reviewed the model results, what they had projected for us. We evaluated their projections in light of our past experience. We set our AB-2021 goal, and considered what new programs or changes in existing programs we would need to make in order to meet that goal.

As far as our past results, we've had an aggressive program since about 2000. We had set an energy efficiency goal of 1 percent of our five-year average sales back in 2005. That was adopted as part of our integrated resource plan. And I believe it was January of this year that we reported to the Western Area -- it was part of RFP. That's a different set, that's not my section. We did adopt that goal.

Our savings have averaged about .8 percent for the past six years. Our high was about .91 in fiscal year 03/04. I tried to go back and adjust all those numbers using the model that was developed last year. My best estimate, using that model.

I should say when we hit our high of the

.91 that's right around the time we were doing a lot of retrofits to city buildings, and replacing all the traffic lights. There was a lot of savings over a two- or three-year period there.

There was a mention earlier about, you know, budgeting processes and what you should do as far as having annual budgets. We've always had a three-year budget.

Lately since we've had more programs it's gone down to a two-year budget. But we've always believed that you can't accomplish anything if you go down to a one-year budget. You have to have time to ramp up programs and get them in place, and show that they're working. So we've always had that.

As far as the RMI model, the results -- initial results, they showed a technical efficiency potential of 1.89 percent; cost effective was 1.57. And then the top 80 percent, 1.39. And they suggested I could do that at a cost of annual budget of 2.2 million.

And basically that raised like a flag for me. Because essentially what they were saying was that I could cut my budget by 24 percent and double my energy efficiency output. And it caused me to think what is it that they're recommending inside of this model that would allow me to cut my budget and double my output.

And so I looked inside the black box to see what was in there. And they were recommending or saying that I could, in the residential area, install 1.4 million CFLs in 70,000 homes over ten years cost effectively. That's 20 per house and 7 per person. That means the lights would have to be on two and a half hours a day, 365 days a year in order for me to cost effectively install those. It just didn't make sense.

And I asked them is that right or wrong or whatever. I never really got an answer. And so I would hope somebody at the CEC would look inside that model and see actually what it recommends.

Either you're not getting the savings for the measure, and so their methodology, the way it is, is they figure so much percent of a residential bill is lighting. And then they do some division, assuming 39 kilowatt hours a year. And then they get a number of cfls that you can install. Either the 39 kilowatt hours is too small, or, you know, -- if you look statewide you would never see it. But if you look at a smaller utility, it doesn't make sense. Twenty bulbs in a house, two and a half hours a day, 365 days a year doesn't make sense to me.

And also what that does is it puts such an emphasis on cfls that you could destroy your other programs. When I came up through energy efficiency cfl mailouts and things like that were frowned upon. You don't know if they're going to get installed.

This year I saved, I think it was 8200 megawatt hours. That's .72 percent. That's not the 1 percent I wanted. But I could have done, mailed out two cfls to every person in Glendale and been at 1.1 percent. And nobody would have known if I just reported it. That assumes I only take 80 percent net to gross, too.

So, how did we come up with our goal. Well, we had the 1 percent goal. We have never met it. But we really think we can. Keeping the 1 percent is still a 40 percent increase over what we've been able to do in 06/07. It's like 35 percent more than the 05/06 that was reported in the draft report.

So we think it's a reasonable goal. And

the way we look at it, we'll review our goal every year. We report it as part of our RPS to our city council every year, how much we're saving. And so as we approach the 1 percent we'll gladly reevaluate it.

I have some slides here where you can see on the left-hand side is what we've been able to achieve historically. There's like a trend line there that shows, projects out to 2017. And that's our 1 percent goal.

Now, the yellow above that is the -- I believe it's all cost effective; and the one above that is all technical. I don't see how I get there. And especially since it's -- if I sent out 1.4 million in cfls I could get there no problem. But it wouldn't do any good for me in resource planning purposes because I wouldn't have the savings.

And I would be making resource decisions or the resource people would be making decisions based on paper savings; savings that weren't going to be there.

If you look at the next slide, you can see our sales on the left-hand side. Originally when I reported this I made a mistake of just doing a linear projection on sales. And that's what got put in the RMI model. So that -- I'm color-blind, but that one straight line actually was sales net of savings. So it got messed up in there and it threw off some of your projections.

But if you look, the straight line is what we project. And that's what we're using for planning purposes. If we hit the 1 percent we have no increase in sales over the next ten years or so.

We can go to the next slide. As far as new programs, when I say new funding, we've already started that. We've put more money in our low-income, refrigerator-exchange program. We have a program we call peak hogs, which gives -- we pay up to 50 percent of the cost of an air conditioner in an apartment building subject to certain levelized costs.

So we basically expanded that to our small businesses, too. Because if you think about it, the tenant pays the electric bill, in both cases. And the landlord doesn't care if the air conditioning is operating properly or not.

What they'll do is they'll pay for the maintenance to keep it going. But we still have

30-year-old air conditioners in our apartments. And that's one of the most popular programs we have. We're putting out, you know, EnergyStar air conditioners and taking our 6, 7 SEER air conditioners every day. And we do that for small business, too.

Other things we're looking at, we like to do like a small scale thermal energy storage, the ice -- kind of thing. Smart meters; to me you've got to go to behavioral modification. In the early 90s everybody knew energy education worked, but you had no way to get the message back to the people. And smart meters is a good start.

We'll have to expand our current programs. But it's interesting in that we offer in our -- excuse me, I'm a little nervous here -- in our residential program we offer up to five cfls. The most we could install on average is four. So, I know our numbers, when we question the cfl thing, that's the legitimate thing to look at.

The same company that does our residential installations runs a similar program in Montana. They have a variety of bulbs; they offer an unlimited number. They average six per house. Because they go in and they find out which ones are on two and a half hours. Which ones already have cfls. And that's all they can do. So 20 to 30 that are recommended in the RMI model, I just don't know how you get there.

So, that's what I -- that's my presentation.

PRESIDING MEMBER PFANNENSTIEL: Well, thank you, all, very much. I have -- well, one specific question for Glendale. Craig, you talked about smart meters. Are you installing them, and do you have pricing that will take advantage of them?

MR. KUENNEN: We are just now starting to look at it. And, you know, if I had my way we'll do it. But it's a slow process. You've got to bring people along. Not everyone understands all the benefits that are associated with them.

So I would think we're going to do a business case in the next few months. And based on that, we'll probably look at a pilot, or move into smart meters.

I know our city council is really wanting to do that. And in light of what SMUD has done recently in their business case, I just think that's great. That's where we all should be going.

PRESIDING MEMBER PFANNENSTIEL: A very general question for all three, and I do appreciate your coming here and providing us this perspective.

Clearly we are sort of struggling with what's been done in the past and how much of that you can carry forward. And one thing we heard pretty clearly this morning is that if we continue to do what we have done in the past, if we continue to do things just as they have been done in the investor-owned utilities, or even in the publicly owned utilities sort of getting started in these programs, we're not going to get there.

There not being just what 2021 asked us to do, but, in fact, what AB-32 is asking us to do.

What new approaches do you suggest for us? Craig used the term behavioral changes. And that's something that obviously is a fairly difficult one to get to.

What are you doing that we should be aware of that we should perhaps take on more generally?

Rob, do you want to start?

MR. LECHNER: Sure. One of Lodi's strategies is to increase the marketing outreach advertising component; to get the word out even moreso. Unfortunately when I put my finger in the bubble here it pushes out over here, which means it impacts perhaps another program or something to that effect.

This year we carved out dollars for EM&V which is required under state law. We've done some level of measure and verification in the past, but this year we carved out dollars for that. And as I stated during my presentation, you know, the monies are fairly well spoken for. So I have to be somewhat creative with how I can make $1.50 out of a buck. But I'm going to work on it.

But specifically again I think what we're going to try and do, and what we're going to -- using 07/08 fiscal year as a pilot year is to ramp up more of our education element.

We have seen just what we've done with our rate structure, our rates have gone up. The volume of online and onsite energy audits have increased exponentially, which is a good thing. So we're spending more time in the small business owner's face, and more time in the residential customer's home, getting the word out that way.

PRESIDING MEMBER PFANNENSTIEL: Do you pay for residential energy audits?

MR. LECHNER: It's absorbed through our salaries. So we provide those as a free service. The online cost, we're shifting gears to a new vendor, it's going to be about $9000 a year is what the service is going to cost Lodi Electric.

But a little more hand-holding. As I stated, that example of that industrial customer. Really pains me why they didn't pull the trigger on such a cost effective project. But, --

PRESIDING MEMBER PFANNENSTIEL: And what was the reason given?

MR. LECHNER: Cold feet. They just got cold feet. It's an aging facility, so I'm not so sure if they were concerned that the new lights would just bring the roof down or not. But, bottomline was it was a really really good project. In my years in doing this it's one of the better ones we've seen.

But it's something that we're taking to heart and we're not going to just let go by the wayside. There's a way to get to these customers and make them work with you.

But also, as I stated earlier, somewhat tongue-in-cheek, you can lead the horse there but you can't force them to go to that next step. So I'm not sure how we get to all the levels we want to be at without just continuing to try.

And that's why I do like the targets that we did come to the table with. And we're somewhat supportive of -- we like Mike's presentation from this morning and some of the numbers he presented. I think those are a little bit more reasonable than what was presented last week.

And then we start taking this thing off in chunks, something we can actually manage to do. And, again, I would suggest to you, it has nothing to do with the size of the utility, or the size of the staff at the utility. Jim does a fine job with the team he has for four utilities. And those folks aren't squawking yet. Lodi's not squawking, either.

It's just we have to get ourselves to the point where, you know, we can convince customers to go to some level.

And the last thing I'd suggest is we

also are somewhat concerned about saturation. Quick example: We started a refrigerator recycling program four years ago. In year one we offered 200 units to take away, because that's what our budget would allow. And within the first three weeks we were completely booked up, filled.

Year two it was about four weeks, same 200 units. Year three it took us almost six weeks to exhaust the 200. Last year we only did 150 of the 200 and it took us two and a half months to get to that point. Same level of advertising; same messages in utility bills; presentation, our city council; news releases; ads in the various appliance stores in Lodi.

So there's the concern we do have of that saturation point. Kind of back on the light bulb thing that Craig was talking about.

PRESIDING MEMBER PFANNENSTIEL: Right. Jim.

MR. BRANDS: My very simple answer to your question is given the place where these utilities are at this point it's nothing new; it's just marketing. It's getting the word out to their citizens, which we can benefit from the fact that they are small utilities and communication in a small town can be done at the grocery store, it could be done in a newspaper ad, it could be done pretty quickly and pretty simply.

So that we've heard, as I went around and talked to the city councils to get adoption of the current targets that have been adopted, they've all talked about the need to get the word out about the programs, because this is a new level of activity that they've got to step up to, and that's the way they're hoping to get it accomplished.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Craig, anything additional?

MR. KUENNEN: Well, we try to keep our rules for our programs as simple as possible because the harder you make it for somebody to participate, the less participation you're going to get.

It has to be flexible. For our large business we given an incentive that's a percent of the project cost subject to dollar per kilowatt hour over the life of the project kind of thing.

And our key accounts go out there and they work with the customers to design the program they want. And we then make sure everything's installed, and they come up with the savings associated with it.

We had tried before to do more of like an ESCO kind of model. They don't want anything to do with it. We got a lot of audits and no participation as far as in the thing.

To follow up, we had the peak hogs program where we're getting lots of tonnage of air conditioners in Glendale switched out that never would have before.

We took a different approach with small business. About five or six years ago we started a small business program modeled after low income weatherization. And if you think about it, small business customers lack the energy education to know what to do. They don't have any funds and they don't have any time.

So we designed a program where we went in and did the audit. We installed up to now it's $1250 worth of lighting or air conditioning or whatever it is that's cost effective in the audit. And we've done 2000 businesses in Glendale. And that program now is being done by Edison. LA's just did a $50 million RFP to do that program. And it's done all over, Fresno, other cities.

So you just have to look at what -- at different ways to look at what you might, you know, what your market is and how you can penetrate it.

PRESIDING MEMBER PFANNENSTIEL: Thanks. Other questions? Thank you, all, very much.

MR. KLEIN: We need a minute to bring the next panel up.

PRESIDING MEMBER PFANNENSTIEL: Sure.

(Pause.)

MR. KLEIN: All right, I think we're almost ready. We're going to have to get some towels to clean up a spill here, but we'll get started in the meantime.

We've defined this as a stakeholders' perspective panel. And we've asked our participants, and there are several here, and four right now, Scott Tomashefsky, Mike Rufo, Athena Besa and Andrea Horwatt, are going to be giving perspectives from different points of view related to the questions we're trying to wrestle with in AB-2021.

We have four basic questions. What comments or reactions do you have to the proposed savings in the staff report. How about to the conversion of the goals to consumption targets, asking people to give you comments on those.

What needs to be done by utilities, the Energy Commission, the PUC, others, to increase the chances each IOU or POU will meet the short-term savings in the next three years. How about the longer term savings over ten years.

What are the implications of the findings in the AB-2021 report and the scenario analysis report related to technical, economic and achievable potential, to evaluation, measurement and verification.

And finally, the fourth question, what comments or reactions do you have to staff's proposed next steps, meaning what do we do for the next cycle.

Those are the four basic questions we've asked people to address. We still left room at the end of this discussion, after we're done with this panel, to have other public commenters to give their perspectives, as well.

And it is possible that Eric is going to participate with us on the phone when the time's right, in this discussion, as well.

I believe we want to start with Mike

Rufo, is that right, Mike?

MR. RUFO: (inaudible).

MR. KLEIN: Okay, we would like to do that. So we're going to put his presentation up.

MR. RUFO: Okay, thank you, Gary; thank you, Commissioners. I'll go through my comments quickly and hopefully stay on point. I just wanted to note that the comments I'm providing today are just my personal comments. I just state that because for good or for not good, I and the firm I'm employed with currently, Itron, wear a number of different hats in our consulting work.

We've consulted with the IOUs in authoring several potential studies. We're consulting with the PUC on their goal study. And I just wanted to make clear that the comments I'm giving today are just my personal comments as one who has conducted a lot of these kinds of potential studies in the past. And been around energy efficiency evaluation and planning for some time.

So, next slide. I just wanted to commend the state really for the entire effort here before I go into my comments. I think that what's trying to be accomplished with the various laws that have been passed, it's very important with respect to the environmental problems that we face.

But as was noted, I think Mike Messenger mentioned it, for those of us who have been doing this for a couple of decades we feel sometimes like we've been here before and we've been through boom-and-bust cycles; we've had to lay people off from our firms; we've seen human resources come and go. And I think we just really want to have a policy regime that's really sustainable for energy efficiency for the long haul. And build on what we've learned.

I think we can go to the next slide. I guess the thrust of my comments, as you'll see, are that within the prism of voluntary utility energy efficiency programs, I think 80 percent of the economic potential is a very difficult target to meet in a ten-year timeframe. And I'll talk about why that is in awhile, or throughout my comments.

I guess related to that, and maybe part of my comments will be off point because I don't understand enough about the statutory limits or requirements that underlie this entire proceeding.

But when I try to look at things from the big picture of trying to get to as much energy efficiency as we can society-wide, I'm not seeing the discussion, I guess, that I would like in this process -- and maybe again because it's not meant to be in this particular process -- about how all of these efforts work together between voluntary utility programs, codes and standards, and other policies that I think are really needed to get to the levels of savings that are desired.

I guess I also want to note that even under mandatory codes and standards, compliance may not reach 80 percent. So I think we have compliance issues, even in mandatory programs.

And what I want to emphasize is that getting real energy efficiency accomplishments is going to require a very highly integrated partnership among the state and the utilities. That's inclusive of voluntary programs, codes and standards, government programs, market effects and the payroll changes that I think we need to get to the level of savings that are desired. Including national and international efforts.

So the next slide, I guess, is maybe too complicated, but a way I just wanted to illustrate for those of us who are trying to forecast this stuff and measure it in our jobs every day. This is kind of a simplification of what we're faced with.

I think what we'd all like to get to is total societal savings. But what we have is potential coming from a variety of places. We have naturally occurring energy efficiency potential which is, itself, a misnomer. What does that mean 20 years after. We've had programs for a couple decades in California.

We have utility net savings which I will come back to in a second. Hopefully we are engendering market effects which also include some changes in behavior. Hopefully we've got some future codes and standards that are going to come into play. And we need high compliance in order for those savings to be real.

And then hopefully -- you can't see it on the hard copy, but you can see it a little bit on the screen -- there's another wedge there at the end; that's new technologies. We've got some of that coming in down the road to try to push up towards those kinds of desired levels of total efficiency.

ASSOCIATE MEMBER GEESMAN: I'm curious as to why your codes and standards wedge doesn't start until 2010.

MR. RUFO: Let me say that this is all completely illustrative. It's not -- the size of the various wedges and the timing is not meant to be indicative of anything. It was just meant all conceptually.

ASSOCIATE MEMBER GEESMAN: Yeah. I guess it kind of goes back to some of the problems in perspective that we were talking about earlier this morning. I do think that one of the difficulties with this discussion has been the utility program prism.

And we heard, I think Gary earlier, his explanation of why we've achieved the savings in the natural gas sector that we have. In fact, he attributed most of that in the residential sector to the role of building energy efficiency standards.

And as I suspect you probably know, we've had building energy efficiency standards in California for almost 30 years.

So, I would think that in an illustrative way, complete perspective on the energy efficiency environment would reflect probably a much more substantial role for codes and standards; and a much more enduring historical role for codes and standards than this particular illustrative graph shows.

MR. RUFO: Yes, it would. And that brings up an important point about what this is intending to illustrate. And that is efficiency that's not currently in the base forecast.

So I'm assuming that the efficiency from historic and on-the-book code today is already included in the base forecast. So this is all incremental to what's already in the baseload forecast. That was the intention here.

But if we were going to show the whole historical perspective, yeah, we'd see a huge codes and standards wedge.

And that's something honestly that I think confuses me in this process, is I'm not sure our future codes and standards being projected here, or is that somewhere else, or is that not anywhere. It's hard for me, as an outsider, to kind of figure that out.

ASSOCIATE MEMBER GEESMAN: Well, I came here hoping to be mainly a listener, but that hasn't quite worked out.

It would seem to me, though, also from a future standpoint, just to take an example that I think was touched upon before lunch, and that is that the occasional proposals for time-of-transfer retrofit requirements.

In our 1982 focus only on the residential sector, focused on time of sale as the mechanism. The State Senate came within one or two votes, after the Assembly had approved, a mandatory retrofit requirement for residential property.

Yet I never hear that mentioned in these discussions of utility programs. And even your graph illustratively doesn't seem to place much of a role on that type of code and standard contribution to the efficiency sector.

I think that the way we conceptualize these opportunities probably is more a reflection of the specific areas that we work on than what the actual potential is.

MR. RUFO: Agreed.

ASSOCIATE MEMBER GEESMAN: Sorry for the interruption. I'll try to listen more this afternoon.

MR. RUFO: No, I think that's all very helpful. The last thing I wanted to point out on this chart that I want to illustrate, again just generically, are the brackets. And particularly with respect to the IOUs currently. There may be less alignment between what we want them to do and what we're measuring in their M&V and performance incentives.

That is to say that if they're incented completely on a definition of net, exclusive of market effects, as well as freeriders, and freeriders makes sense, but market effects is where it gets more difficult, then you have one bracket as the basis for evaluating what the utility accomplishments are.

If you include market effects you have another bracket. If you include some contribution to codes and standards, perhaps compliance, you have a different bracket. And that's just to kind of raise the question which is already out there about how do we get everybody rowing in the direction that we want.

Next slide. Here on this slide I just wanted to illustrate that the other problem with if we are framing things, and hopefully we don't have to frame things in terms of only traditional voluntary programs within this goal-setting process, but if they are framed in that way, going to those very high levels of percent of economic potential, even what's been shown as the full incentive case for achievable potential imply this one-size-fits-all type of program design, with 100 percent of incremental cost being paid for.

And really, at that point, I always come back to, if we're going to pay 100 percent of the incremental cost, and we're going to go door to door and make everybody aware and provide total information, then maybe it's time for code and standards. Isn't it the job of the programs to try to stay ahead of markets and to be flexible to where products and markets are in their lifecycle?

So this is just, again, I'm sure you'll find something -- some weakness here, and there are many. But conceptually we're just trying to show that technologies have a lifecycle and programs need to be flexible in responding to that lifecycle in terms of what type of intervention may be appropriate for a technology or measure and its lifecycle.

ASSOCIATE MEMBER GEESMAN: So are there

examples of programs or measures that have flowed from utility program into the codes and standards area? And what are those examples? And what magnitude of impact have they had?

MR. RUFO: Well, you know, a simple one is lighting and electronic ballasts, which, you know, started out in the 1980s. Electronic ballasts hung around for awhile in studies and didn't do very much. And it wasn't until the 1990s that we finally got that technology to start taking off.

Some of the early programs in the early and mid 90s did include intensive direct install types of interventions. then the programs went more to a prescriptive rebate. The market took off. There was a lot of adoption going on. We probably got to 50, 60 percent market saturation. The code got stronger in new construction, Title 24 basically, the LPDs became fairly equivalent to T8 electronic ballasts. I'm not sure what the timing of that was, late 90s, early 2000s.

And now we're back to doing direct install to pick up, you know, the hard to reach and the laggers, if you will, in that technology. So I think that's a case where we've seen a number of different program strategies over time change in response to what's going on in the marketplace. And we've seen the code also come into play to pick up a chunk of the potential on a forward-looking basis with new construction.

ASSOCIATE MEMBER GEESMAN: Is that code a standard feature and a standard part of utility program design? Or is it more of a random occurrence?

MR. RUFO: I don't know. I can't answer that one.

PRESIDING MEMBER PFANNENSTIEL: I think there's another issue, also, with codes and standards. However much they may make a lot of economic sense, we may -- both technical and economic sense, we are still, under current state law, limited to new construction.

And a lot of this may, in fact, make a lot of sense for existing. And there we go with the question of mandatory upgrade at time of sale or some other option. Which, by the way, strikes me as being a very useful tool for the municipally owned, the publicly owned utilities, where their city ordinances are largely passed by the same people who would be looking at the programs. And it seems like an opportunity there that we may not have at the state level if we can't get the appropriate state legislation.

ASSOCIATE MEMBER GEESMAN: I would think, also, a condition of new service for the investor-owned utilities as new customers come on, or as customers change. You know, there are a lot of different ways to skin this cat.

I'm trying to figure out from this discussion how many of those different ways are featured as a part of program design, and how much are just random lightning strikes.

MR. MESSENGER: Excuse me. I would like to try to answer Commissioner Geesman's question about standards, because I think it's an important one.

In the 80s and early 90s it was random. Utilities offered rebates for various kinds of technologies which later became part of our building and appliance standards. And I'm familiar personally with like refrigerator standards and air conditioning standards where in the early 1980s it was rebated. In the late 1980s it became part of the standards. And in the 1990s you can't even find equipment below that standard level.

In the year 2001 utilities started working in conjunction with some of our building standards and appliance standards staff to develop a comprehensive sort of cradle-to-grave strategy for first we're going to have an emerging technology; then we're going to put it through programs; and then eventually it will become part of the standards-making process. In fact, utilities came in and supported changes in the standards.

So I think it's a fairly recent development, but one that should be encouraged, that utilities are planning with an end in mind to get a particular set of measures into the code. And therefore, save everybody money, as Mike was saying. Because if you're going to pay 100 percent of incremental cost, why do any marketing. You might as well just require it in the code.

So I think that's started to happen. The problem that we face, and I think one that we need to go back and consider, is if we're setting a statewide savings goal, in theory we should be including some contribution from standards in the future. You'll see that our report is silent on this; it doesn't have any contribution from building and appliance standards.

But, in theory, if we're going to look at the whole picture, we would say, and we're planning on these kinds of technologies becoming codes and standards in 2015 or something like that. Or assume some kind of generic improvement.

And the feedback we've had so far is, well, that goes too far because it forces building and appliance standard people to sort of reveal what they're going to do too early in the process. They won't know ten years from now what kinds of standards, or even five years from now what kinds of standards. And they don't necessarily want to commit to a specific quantitative number.

But I think if you want to develop a larger pool of savings, and give some of the utilities programs, something to shoot for, we need to figure out if there's a way of bridging that barrier so that we can -- when we say statewide potential, we mean all strategies, not just the utility programs.

ASSOCIATE MEMBER GEESMAN: Well, move over to Commissioner Pfannenstiel's question where you're not as dependent on emerging technologies, but rather where you're focused on the existing building stock.

What's wrong with this picture in terms of utility programs evolving into codes and standards?

MR. MESSENGER: In theory I don't think there's anything wrong with it. And in practice I think we're almost to the point where we have enough in-home display technology and audits so that there'd be enough public confidence that they could see the savings that came from this mandatory retrofit.

I think in the past one of the reasons there's been opposition in the Legislature to time-of-sale or time-of-retrofit ordinances is a lack of belief that they're actually going to be able to see the savings.

But I think we're to the point where technology can confirm them. So I don't see any conceptual reason why. There's just a lot of legislative history and things in the past where people have tried to go from time-of-sale or mandatory retrofit, and they've run into political obstacles.

PRESIDING MEMBER PFANNENSTIEL: Well, I

think those political obstacles are probably still there. They may be able to be reduced by better information in the future. But right now they're there.

However, I reiterate, they are not necessarily there for publicly owned utilities. They have the ability to pass ordinances to do exactly what we would like to do on a statewide basis.

ASSOCIATE MEMBER GEESMAN: And the only instances of which I'm aware, which admittedly is 25 years ago, it was actually a measure sponsored by the statewide realtors association, because they were fed up with the tendency of local governments adopting their own ordinances at the local level.

And I would suspect were these utility programs truly geared to produce codes and standards recommendations, that you probably have a proliferation of such measures at the local level, which over probably not too long a period of time, would build to statewide pressure for a standardized, uniform approach.

MR. TUTT: Mike, before you go on, I had a question. You said that you considered putting in a contribution from standards in this report, you talked about it, gotten feedback that -- you shouldn't do that. Feedback from whom?

MR. MESSENGER: Members of the staff who I don't think want to be mentioned in public now. We can talk about it later.

MR. TUTT: Okay.

MR. RUFO: Okay, I'm going to try to move my comments along because I know we have a lot to get through. I can probably skip this slide. I think we've talked about these, this issue a fair amount today.

One thing I want to make sure does get emphasized is the issue of market barriers. There are significant market barriers associated with some of the technologies in these studies. That's one of the reasons why we have programs in the first place. And one of the reasons why getting to 80 percent in a voluntary environment is very difficult.

Also, not all of the technologies that we have in these studies, although philosophically we try to adhere to the equivalent energy service criteria for efficiency, defining efficiency as equivalent energy service, not everything that we study is one-to-one perfect energy service equivalents. And maybe that's okay, but that's something to be aware of.

Next slide, then. Just high-level comments on the report, on the goals report. I thought it was very well written, very clear. Obviously responds very seriously to the intent of the law. And, you know, staff went to considerable lengths, as we've heard already today, in trying to craft something that's responsive to the unique situation of the POUs.

It's certainly consistent with the over-arching goal of trying to achieve very high levels of efficiency within AB-32 context.

Next slide. Just some concerns; and again, maybe we've hit on most of these. I'll try to skip some in the interests of time to leave time for more speakers. And I do have these here in writing for anyone who wants them.

Just going to look for things that we haven't already covered. We've covered most of these. One thing we haven't covered yet is on the peak side. I'm a little concerned about the peak-to-energy relationship, that it's carrying forward a relationship, I believe, from the PUC process, not based on bottom-up data. So that the peak numbers strike me as even more difficult to achieve. That they may be biased upward by the load factor that's assumed there.

MR. TUTT: Excuse me, Mike.

MR. RUFO: Yeah.

MR. TUTT: Aren't the peak numbers from the Itron report?

MR. RUFO: I don't believe they are. Are they in this?

MR. MESSENGER: They are indirectly because they're RMI's translation of Itron's numbers into the context for each of the POUs. So we're just taking that relationship that was assumed by end use at the IOU level and transferring it to the various MOUs.

MR. RUFO: Well, maybe it's the IOU peak numbers that are the ones that are high.

MR. MESSENGER: That could be.

ASSOCIATE MEMBER GEESMAN: What improvements do you anticipate in that data in the future?

MR. RUFO: Well, I believe one of the issues with the IOU numbers is that there was just a generic conversion factor for energy-to-peak,

.2, right? And that bottom-up data in the original surplus study wasn't used for the peak. Am I -- not to dredge up too much old stuff --

MR. KLEIN: That is correct. We only used numbers from the 2006 study. So whatever's embedded in that for potential is the same potential we used for all utilities.

MR. RUFO: I'll have to take another -- I mean the percent there was even higher than the 80 percent, right? It's 85 percent or more in your report?

MR. SPEAKER: It's like 95 --

MR. RUFO: And I didn't quite understand why that was. But maybe I just need to look through that.

ASSOCIATE MEMBER GEESMAN: This is an important point because our feeling is that the state has not done particularly well on any of its peak saving efforts despite years and years and years of exhortation and trying.

So the more improvement we can make in terms of having confidence in the data and what savings to attribute to particular measures, I think the better off all of us would be.

MR. RUFO: The last point is I just

thought the report should try to characterize uncertainty in some way. I know that's not easy to do, but to me the uncertainty bands around achieving potential become asymmetric the more aggressive. And that's true of any policy; it's not to say that one shouldn't try to do it anyway.

But the probability of expected value of getting to the goal is getting somewhat asymmetric. If you put an uncertainty band on all of these potentials, as you go up higher and higher, you're going to get a bigger band on the lower side, a smaller band or nothing left on the upper side.

Okay, next slide. Finish up here, give the mike to the others. Some recommendations. Continue to aggressively pursue all cost effective energy efficiency as the first resource in the loading order.

I think our goals should be inclusive of utility and nonutility efforts, as Mike was alluding to.

The utility goals should be aggressive, but plausible. I also agree with Mike's comments earlier with regards to the POU, that we want to be aggressive, but we also want goals that we can see are being achieved. And if nobody's achieving them, then it may lead to defeatism as opposed to building momentum on the success that we all want.

I think these utility goals, too, should be built on forecasts that reflect a realistic mix of program strategies in the sense of levels, not a kind of, you know, one-size-fits-all extreme case, direct install 100 percent incentive model, which has its place in the portfolio, but is not necessarily appropriate for all products at all times in the product lifecycle.

I think, you know, I don't really like using just a percent of economic potential as a benchmark, but I know there are constraints to everybody's -- how much analysis can be done in these various proceedings. But if such a benchmark were used, I'd be more comfortable with a number in the 50 percent range than the current recommendation in the report.

We need to close the gap, I think it was mentioned a couple times today already, between what we're measuring ex-post, and what's in ex-ante. We always have this 20, 30 percent or more true-up, and it would be nice to work ourselves away from that so that we can really plan for what we expect.

And that the goals and the policies should really be incurred for the long term. I worry sometimes that if we put too much pressure on the short term then we get cream-skimming. We go after the short-term easy stuff, and then we create lost opportunities. We just make it where we're pushing the day of reckoning, of capturing all the other stuff that's harder than the widget replacements off into the future, all the practice changes and behavioral changes that are important.

I think we need to also give consideration to start tracking our energy efficiency accomplishments. Again, something like a frozen efficiency baseline. It's very hard to untangle how much efficiency is embedded in the base forecast. And yet what we really, I think, should be concerned about is what's the total amount of efficiency that we're accomplishing, inclusive of naturally occurring long-term market effect, short-term program effects, codes and standards, as well as other initiatives, changes in behavior, et cetera.

And I don't know that we'll really have any way of knowing that unless we do a better job in creating some baselines of energy use.

And I want to commend the Commission, too, for investing in better baseline information, the statewide RASS and SEUS projects are very very important. A lot of times we go around planning energy efficiency, which has all kinds of difficulties associated with it. And one of the difficulties is not even understanding well enough where the energy's going today. And we've made progress there, but I think we need more progress than we've had.

And last, just that even if it's not formally in the scope of the report, at least some mention, I think, of the need for policies and incentives to really align the interests of utilities and the state. We've made progress there, but I think there's more progress to be made to make sure that the incentives are in place to get everybody going towards the end goal here, total efficiency.

Thank you.

MS. BESA: Thank you, again, for this opportunity. I think I said a lot of my comments addressed the questions that were laid out here when I spoke earlier before lunch.

But I wanted to take this opportunity to emphasize again that in order for us to meet the goal that's embedded in AB-2021, currently the tone of the report is here's the utilities' goals and it's either short 10 percent or we're going to make 10 percent.

But I think that in order for the state to be successful it cannot be viewed just as the utilities' goal. It needs to be the state's goal, where each of us are contributing towards that 10 percent.

As Mike was talking about earlier, some of it is naturally occurring already, and we're not exactly sure how that's embedded in the forecast.

When we talk about codes and standards, I mean certainly the codes and standards that the state has, whether they're aggressive or not as aggressive, or if there's interim codes and standards that are put in place, such as when we had AB-970, which was off-cycle, that we could actually pursue more cost effective, energy efficiency savings through that route.

But in order for codes and standards to be actually effective there has to be support for it. There's been discussion of a lot of non -- a level of noncompliance for codes and standards. And to the extent that the utilities can support insuring that at least a level of codes and standards are met before we even go to the next level of energy efficiency.

At least for the IOUs all energy efficiency programs are always built on the assumption that we achieve X percent above Title 24 or Title 20.

And so to that extent we're not even counting the savings potential between the code and whatever level we set out programs to be at. And nobody's counting those savings. And that's savings that is part of 10 percent.

To the extent that local governments are supporting the goal to achieve 10 percent, not necessarily through the munis, but also to the fact that they're enacting their own ordinances that encourage energy efficiency. And so to that extent, the IOUs are partnering with various local governments to actually help design these ordinances and to put programs in place to support these local ordinances.

For example, San Diego Gas and Electric

has partnered with the City of Chula Vista, the City of San Diego and the County of San Diego. The Gas Company and Edison have partnered with various different cities in its own territory, like for example, Ventura County, Bakersfield, Palm Desert, in order to help them all design their own standards.

Another way to do this, too, is the other market players need to be supporting this. We can say, the gentleman earlier talked about we can have ten compact fluorescents per home. But then if the supply is not in our state, then we cannot promote even getting one or two of these pieces of equipment if it's not available.

For the longest time it wasn't always easy to achieve high energy efficiency air conditioners because they were not available. Refrigerator stock depends on which programs are being promoted. If California's not promoting high energy efficient standards, the stock is not going to come to California. It's going to go someplace else.

Which points to we need to have consistent program policies in place. We can't fluctuate between deciding we're going to do market effects, let the market take care of it, and run like that for a few years. And then decide that now we're going to count installed savings and hope the market changes as quickly as we can.

We need retailers to be stocking these things. We need contractors to be fully engaged also in believing that energy efficiency is necessary and vital for our state's economy. Otherwise we get contractors who are not even stocking and carrying efficiency equipment in their trucks.

For example, water heaters. High efficiency water heaters could be difficult to come by if water heater contractors are not carrying them. Usually if you have a residential customer whose water heater breaks down it's an immediate need to replace it. They will take what's available to them. They don't have time to shop.

So, if contractors are not carrying energy efficiency water heaters and making them available and easy access to customers, it's not going to happen. They're just going to buy the first one that they see, and immediately; they require hot water.

We need everybody in the market to be supporting energy efficiency, not just the utilities, not just the state.

Another thing is price signals. When I go to different countries it's very interesting that no matter, you know, Mike talked about whether the level of service is the same. And if customers don't perceive that the level of service that they're receiving with an energy efficiency piece of equipment, as opposed to a standard piece, they would revert back to their standard piece of equipment.

But then if you go to countries in Asia where compact fluorescents are prevalent, they don't really care whether the light rendition is adequate or not. As far as they're concerned it helps save on their electric bill.

And so until that perception is consistent across customers, we are going to have potentially irrational customer behavior where, you know, a lot of achieving these savings depends on customers wanting to participate in a voluntary program. But they need a reason to participate in these programs beyond just feeling green, or you know, it saves the environment. Otherwise it will take us awhile to get to the goal that we need to be at.

There's also tension between short-term savings versus long-term savings. So, if they need a goal is to start counting installed savings, the utilities are concerned about getting the first pieces of equipment installed as soon as possible.

And now you'd have to balance the cost of providing education programs, which really in the long term seeds, you know, customer change in behavior by making them more aware of why it is better to have energy efficiency.

But when you're trying to figure out where you're going to put your budget, so that you can get your savings immediately, or try to educate customers so that in the future you will continue to have these for the next ten years.

I think the other point that I wanted to make was for us to be all on the same page. If we're talking net savings, and somehow discounting freeriders, hopefully the freeriders are still part of that 10 percent someplace. Whichever one of different entities or accounting savings towards meeting the state goal, that number is in there. Because they are captured in the utility's programs.

It is difficult to weed them out, especially when you're doing big bold strategies. You want to encompass as much of your population; and trying to decide who should be in and out is not always easy. The easier you make it for a customer to participate in a program, the more potential freeriders you have in a program.

But then when you make it too difficult for a customer, then, again, if they're not seeing any reason, like a price signal, why they should participate in these programs, then, you know, they're not going to participate, either.

Earlier one of -- the gentleman from Lodi talked about how his industrial customer, after hand-holding and almost setting the deal, they decided to back off. A lot of our industrial customers have a lot of competing interests in deciding how they're going to invest their capital budget.

At one of our meetings, our program advisory meetings with Edison and the Gas Company, we invited a gentleman from Valero Refinery to come and talk about how to make decisions on energy efficiency versus their capital projects.

He talked about their five-year plan to rank all their capital projects. And somewhere along the line they did have energy efficiency. But for whatever reason, that energy efficiency project fell out of their capital project plan. Until the Gas Company came along and we decided -- and the amount of money that we provided for them as an incentive, when you took it relative to the cost of the project, was not significant.

And yet, that made a difference to the customer. That there was some available funding for them. And we were able to help convince their management that energy efficiency was a good business practice.

I think that's all I have to say. Thank you.

ASSOCIATE MEMBER GEESMAN: I had a question. Do you consider cogeneration projects energy efficiency projects?

MS. BESA: Right now there's some limitations on allowing cogen participation in the programs. For example, on the electric side if they do have cogen, one of the limitations that we put on providing incentives is that we cannot provide incentives for more than what the customer is purchasing from us.

So if their supply is provided more by their cogen then we're limited in providing them incentives up to whatever they are purchasing from the utility. So if they're only buying 10 percent from the utility, then that's as much as we would do.

Although when you look at it from a customer perspective, that lighting job is all over their premise. And whether they're being supplied by cogen or by the utility, as far as the customer is concerned, it's not important to them. But they cannot do a 10 percent project. They're going to do an entire project.

And these kinds of limitations actually can make the customer decide that they're not going to participate.

On the gas side, cogen customers cannot participate in energy efficiency programs, since AB-1002 excludes them from the collection of public goods charge.

MS. HORWATT: Before we leave this topic I just wanted to mention the fact that there is the self-gen incentive program available, as well, that, you know, customers can use for self generation.

ASSOCIATE MEMBER GEESMAN: Are gas-fired cogeneration projects eligible for that, though?

MS. HORWATT: Are they still in tier three? I know at one time they were. I'm not sure if they're still in tier three or not.

ASSOCIATE MEMBER GEESMAN: I think they were taken out and not put back in.

MS. HORWATT: Okay. I'm Andrea Horwatt from Southern California Edison. First of all, I would really like to thank the Commissioners for the opportunity to provide input today. From my perspective this is quite exciting that we have these stakeholders in a room collectively talking about how we can do more energy efficiency.

And I think back the time I've been in this business, it's a substantial change over when I started. And I find that pretty exciting.

I'll limit my comments to three of the questions that were on the list from Gary and Mike. The first one has to do with conversion of savings goals to consumption targets.

That has a lot of appeal from a

conceptual perspective, since that's really where the AB-2021 is focused. I do have some concerns about the operationalization of that. Mainly because in looking at consumption we have a number of confounding variables in there that really make it a little more difficult to see how effective we're being from an energy efficiency perspective.

We know how to measure the results of energy efficiency programs. It's not perfect, but it's a -- we do a pretty good job of it. And the discipline is fairly well understood.

Consequently I think there are advantages to staying more in our current paradigm of measuring the savings results than attempting to transition it to some kind of a consumption target.

Secondly, looking at what the utilities, both publicly owned and investor-owned, can do to meet their savings goals over a three- and ten-year horizon. One of the points I would like to make is to reinforce the fact that Edison strongly supports the loading order. And we expect to make every attempt possible to meet or exceed the EE goals that we currently have. They're very aggressive; we recognize that.

Going forward, we'd like to stress that the goals really should reflect achievable potential, and should be based on the best and most current available data. Mike Rufo touched on the updated RASS and SEUS data. Those updating the data that are used for these estimates are really critical.

We've done in this state a lot of energy efficiency over the last 15 years. Some of our older estimates of EE potential reflect saturation data that was really pre-energy crisis. It really dates to the mid 90s. We've come a long way since then. And our goals should be reflecting the results of these new studies that have been done.

We have one Itron study that was completed in 2006. There's another one that's in the process of being completed right now. it certainly makes sense to try to leverage these data when we're revisiting goals. And I think a lot of that can be shared to the -- can be used to update some of the goals for the publicly owned utilities, as well.

In the staff report about the goals, there is one area where the staff mentions reliably achievable energy efficiency. If we're really expecting to use energy efficiency in a resource-planning context, it being reliably achievable is key. We can set, you know, very aggressive goals, but if they're not achievable in the end and we're not securing resources as a result of relying on these goals, it could put us in a predicament down the road. So I think we need to be very realistic in the way that we do use energy efficiency.

Related to point three and technical economic and achievable potential, I really touched on that earlier, and will leave it at that.

ASSOCIATE MEMBER GEESMAN: So would a cogeneration project look like an energy efficiency opportunity from your company's perspective?

MS. HORWATT: Since we're an electric-only utility, I would say it would not. I mean their are net consumption of energy does not change, even if they're putting in a cogeneration project. They're still using as much energy.

And in many cases, depending on whether it's a topping or a bottoming cogen unit, they may, in fact, be using more energy and creating more greenhouse gases.

ASSOCIATE MEMBER GEESMAN: Well, I've heard that perspective from your company before, so I'll say no surprise. No agreement, but no surprise.

PRESIDING MEMBER PFANNENSTIEL: Are education and advertising and behavioral kinds of programs considered to be energy efficiency programs, as you count them?

You made the point about not really wanting to change how we count because there seems to be a sense that we're pretty good at counting the programs that we currently have.

How about those more amorphous sort of programs?

MS. HORWATT: Actually I'd value some input from Athena on this, as well, because she is more familiar with some of the measurement evaluation issues than I am.

But, we have a much clearer line of cause and effect related to hardware measures than we do for behavioral measures. And if the emphasis is on achieving the goals, you know, we're, in general, going to lean more toward measures that we know can give us points on the scoreboard.

PRESIDING MEMBER PFANNENSTIEL: Yeah, we have heard earlier today the opinion that we need to do more convincing customers and educating customers and giving them the understanding of how to take advantage of these programs in order to make the hardware programs that you say, more effective.

MS. HORWATT: Yeah, absolutely. I mean that's -- when we look at the results of the EE potential studies, the achievable potential, part of the constraints on that have to do with awareness and willingness on the part of customers.

And education, advertising, outreach all help to effect those variables and will ultimately increase the level of achievable potential.

Measurability, things like that, I'm less familiar with and would defer to Athena if she wants to comment on that.

PRESIDING MEMBER PFANNENSTIEL: Well, my concern is simply that if we only do what we can measure, then we may not do some of those programs which we all agree are important to do. And so how do we get beyond that?

MS. BESA: And I think I mentioned it earlier where I said that there's this tension between short-term savings and long-term savings. And definitely investing in education and outreach type programs insures that you have some long-term savings in the future besides commitments from new construction type projects.

Part of, at least from the IOU perspective, when we're doing cost effectiveness analysis the education and outreach is considered an administrative cost. And there is no matching benefit because the way it's counted is we need to have a matching installed benefit at the point in time that we are doing the evaluation of cost effectiveness.

And so when we have investments in education and outreach, and there's no specific matching credible savings that we can account for, then it shows as an overhead burden on the cost effectiveness of the portfolio as a whole.

I mean I think the Public Utilities Commission has moved a little bit in terms of trying to make progress on cost effectiveness issues, and making decisions on balancing of portfolio by allowing cost effectiveness to be at the portfolio level, so every single thing that the utility does contributes to cost effectiveness at a high level, versus this program is cost effective because it has a lot of savings at a cheaper price versus another program like a direct installed program, which has more costs in it. And therefore the cost effectiveness of that is less.

But nonetheless, for education and outreach type programs, again they have no direct measurable savings other than hopefully in the future customers are informed enough that they would participate in future programs or become part of those people who just are inclined towards energy efficiency.

But then, again, when you do this it's sort of like a cycle where now that they're educated and concerned about energy efficiency, that when they participate in a program they actually are netted out of the program. Because when you ask them why they did this, the motivation for doing it is because they, on their own, were going to do it without necessarily regard to education and outreach that helped them get there.

So, I know it seems like it doesn't make sense, but because of the way the programs are measured and the cost effectiveness methodologies, these things are paramount when we're trying to figure out how best to make our portfolio work.

MR. RUFO: That's why I think it's very important to understand baseline energy usage and behavior. Because if you don't understand that, then you don't have any way of understanding the behavior in the future.

So I think we're doing better at that. But personally I think the behavioral changes are critical. We're not going to get to the kind of numbers that everybody wants to get to for AB-32 without some behavioral changes.

PRESIDING MEMBER PFANNENSTIEL: Well, I absolutely agree with that. I've been beating that drum for awhile. My problem is that the utilities, certainly the investor-owned utilities, are reluctant to spend money on those programs because they are considered overhead, administrative costs. They're not given credit for those programs.

And therefore, they're taking, minimizing something that I think may be something we want to be maximizing.

And so, I agree we need to get there. I'm not hearing how we can do that. But Mike has an answer.

MR. MESSENGER: Yeah, I have a perspective on this because I've actually seen a lot of progress towards this getting thrown away about five years ago for different reasons.

So let me tell you what I think the problem is. Five years ago there was not agreement on how you could actually measure the effects of advertising campaigns. Particularly statewide ones like Flex-Your-Power.

I would say in the last two or three years there's been some credible studies that have shown cause and effect. We did this kind of advertising, we got this increase in awareness, we got this increase in takeup of measures.

So now that we have the measurement methodology sort of more refined and more acceptable to people, the problem is that we're measuring the wrong things on the back side. We're only measuring net savings from the utility program. And the PUC has explicitly stated you can't measure market effects.

And if you think about it, Flex-Your-Power, a lot of its savings are going to be for market effects. They convince people to do things on their own without going through a program.

So, I think if you want to give people credit, so to speak, and encourage people to do more education, awareness and feedback, you have to do something like Mike was suggesting. Understand what the frozen efficiency level is, measure all of the effects, both utility and standards and a variety of other things. And not worry so much about allocation or attribution.

And that's where it's currently hung up at, is that you can't, if you're a utility and you spend $10 million to co-fund Flex-Your-Power, if you can't attribute where those $10 million resulted in a specific kind of savings in your service territory, then it doesn't count.

So, it's going to take, I think, a lot of leadership to get some people to show that now we understand cause and effect in terms of advertising and education. How can we now measure the net sum of all energy efficiency things, both programmatic as well as behavioral and other kinds of changes.

And it will require, I think, some advances in forecasting technique, as well as advances in picking up information like the RASS and the SEUS that will tell you essentially what's happened at the population level, as opposed to the program level. Thank you.

PRESIDING MEMBER PFANNENSTIEL: Thanks, Mike. Are we moving on to Scott or Gary for comment?

MR. KLEIN: I would think that after 30 years of efficiency programs in the state we could call freeridership dead. We've been advertising this forever. And Athena's point's well taken that if we educate this next generation of buyers of efficiency, by the time they get to buying something when they're 25, someone's going to say they were a freerider, because they would have done it anyway.

Well, that was the point of the program that they couldn't get paid for in the first place. I think we ought to solve that problem somewhere, personally.

Mike's suggestion, I'd like to follow that logic a second. In a utility service territory, which we have the definitions of, or at the state level, we don't actually care what was the reason why somebody did it. We want it done.

And so to the extent that we're capturing whole system changes we're better off at that point, rather than worrying about a specific attribution.

So, Scott, I think it's yours.

MR. TOMASHEFSKY: Thank you, Gary. Good afternoon, Commissioners. I think the point that we're actually struggling with these issues is a good thing. If anyone had any suspicions that we weren't considering this to be important stuff we wouldn't be talking about it, we wouldn't be struggling with the numbers. So the fact that you've got it codified in statute is just one more reason to do it, if we really needed a reason to do that.

My role today is -- you've heard a lot of technical discussion from not only the rest of my panel members here, but also the previous panels. I actually get the easy job of explaining, just giving you an update in terms of where we are in terms of public power's contribution to this.

And as a first matter of course, though, I definitely want to express appreciation to staff. Staff has been wonderful towards dealing with this issue, not only with 2021, but this is a continuation of a two-year process. And so it starts with our energy efficiency snapshot. The next one is coming in March, so one of the struggles that we are dealing with today is trying to make sure that the numbers that are connected to this work actually are connected to the 1037 work. So that's an ongoing thing that we will continue to have a dialogue.

And that dialogue has included extensively NRDC, as well. So they have been fully part of that.

Also you've heard from a number of utilities today in the public power community. You have a total -- including them you've got a total of ten utilities in the room today. So not only from who you've heard, you've also got SMUD, MID, TID and Imperial Irrigation District in the room.

I have written comments from Los Angeles Department of Water and Power that they had asked me to forward along. And if Cynthia doesn't have that already, I think they forwarded it to you on

Friday. But, if not, we'll give you some copies of that.

And in addition to that this is an ongoing collaboration with CMUA and SCPPA. It's been a very good collaboration. And I would expect the next round we'll probably have more than 39 in there, because we continue to identify utilities that may not have been part of the initial round.

A couple things I wanted to bring to your attention. As of today we have 16 governing boards that have adopted their targets. There are eight more coming this week. The rest of them, with the exception of maybe one or two, will be next week. There's one, I just make a mental note, that will be just after the first of October only because of staffing issues. But they are certainly working on it. So the intent is to get the data to you as quickly as possible.

Our expectation would be that you would have a revised version of what we provided to you in June. Basically not too much changes on the text, but just updated numbers with a couple of extra paragraphs just to kind of say what's happened in the last couple months. You should have that by October 15th. And that should complement the data that you have from the other utilities that were not part of the initial RMI work.

I also want to thank Katie Wang of RMI and her staff for putting up with our endless questions, and actually being subjected to endless questions from other stakeholders. We let them ask questions on it, so that's been a good process.

I think in terms of what you see in there, you will find NCPA will provide some comments, written comments, by Friday -- I guess that's our filing date -- in terms of specific contributions to the report.

The main thing for us really is, and I think it's been highlighted here time and time again, I think the first initial reaction that you got from most of the utility staffs are how in the world are we going to get to 80 percent of potential. And that led to a more philosophical discussion about how do we find a way to move the debate forward.

There are, I think many points that were in the report were well taken in terms of there's a need for additional information. I think part of the struggle that we've seen in those discussions is that I think staff recognizes that focusing on all the utilities is very difficult in terms of timing and actual precision to a statewide forecast.

But at the same time we want to be true to that need to get that additional information and input, and some of the insights. So we are looking forward to continuing that process.

In saying that I also need to reflect that since this first process was really a nine-month process, a very abbreviated version to what AB-2021 has called for, this really was a three-year process for establishing targets.

Our initial objective here was to get you numbers that had some methodology behind it. Certainly could pass the laugh test. Certainly would not be overly aggressive to the point where we were committed to failure. We wanted to give you numbers that were realistic.

And if they're on the low side, then I think what you'll see is that when we go through this three-year process, going through 2010, you'll find a significant ramping up.

I know in terms of the graphs and charts that you've seen before, part of the questions have been when you're dealing with a linear model and ramping up numbers it kind of shows a ramp down.

I look at it in a much different way. And I told this to the Truckee Donner Board when I gave them a presentation in August when they adopted their targets. One of their community members asked, well, what happens if we don't get to a point in ten years; should I be concerned about that.

And my answer was, no, you should be concerned about it if you don't get it in three years. Because really what you're doing is you're constantly evaluating these programs. And to the extent that you actually are overly aggressive and able to attain additional savings, you can make a pretty strong argument that that raises your bar for compliance going forward.

So the three-year cycle is extremely important. Similar to the way we look at traditionally long-term forecasts here at the Energy Commission. When you start getting out beyond 10, 15 years, the number becomes more a number than something that's based in concrete nature. So you need to be able to get most current information into the process and move forward.

The recommendations, clearly, I guess, making all of those comments, you probably wouldn't find it surprising that staff's revised version of that certainly is much more in line with what we can deal with. I think it shows us with a desire to move forward and really get smarter, not only provide more information to you, as an agency, so you can establish a goal, but also for our member utilities to get information and insight that can be used to deal with their particular programs. So that's a good thing.

ASSOCIATE MEMBER GEESMAN: Which staff recommendation are you referring to?

MR. TOMASHEFSKY: Looking at the -- well, you're looking at modification of initial three-year target, so you're insuring a majority of POUs have a realistic chance of meeting savings goals.

ASSOCIATE MEMBER GEESMAN: Are you speaking of Gary's approach or Mike's approach?

MR. TOMASHEFSKY: Well, I will beg your

indulgence on that since I had other commitments this morning, so --

ASSOCIATE MEMBER GEESMAN: Oh, you weren't here.

MR. TOMASHEFSKY: -- whatever shows up on page 42 and 43 of the staff report. And I'll leave that as be. We can talk about that more if you'd like.

ASSOCIATE MEMBER GEESMAN: To make this more abbreviated, one of you two want to claim authorship for page 42 or 43 so that I know which one we're talking about?

MR. MESSENGER: I believe that -- and I was recommending individual targets for individual utilities.

ASSOCIATE MEMBER GEESMAN: Let me specifically, Scott, advise you, just from my own personal perspective, not to encourage your clients, as Imperial suggested to us earlier today, to roll back their targets because of Mike's particular generosity until you've actually heard final action from the full Commission.

MR. TOMASHEFSKY: Oh, there'd be no intent on that at all. In fact, I'll give you an example of what you'll see as diligence towards not having that happen.

Alameda will be adopting their targets today. And you heard a long discussion in June about why the numbers are as low as they are. In talking with Alameda Staff, their board has concerns with those numbers. They have contracted with RMI to do an assessment towards the end of this year. And there'll be an expectation that their numbers will be readjusted in the first quarter of 2008.

So that's not a suggestion that we will sit on our hands and not be as aggressive as possible. So that's the intent; that's not the intent of my comments, it's more a reality check of what we have to do. So, thank you for the clarification on that.

One, well, two final points. One of which, in terms of the statewide targets I tend to agree in terms of how we deal with this as a state. Whether it's a utility or nonutility program, I think we should be focusing on getting the most from the standpoint of energy efficiency savings.

How we count those things is always the subject of significant debate and discussion. But we should be just as excited about getting utility savings as we should be; that's something that's related to codes and standards, Title 24, Title 20, whatever. Whether it's we manage to figure out a way to get through to a customer. I think those are very important considerations.

And then finally what we would suggest in terms of really as we think through this going forward, this is such an important consideration as you come to your adoption in the November timetable, and moving towards the 2008 IEPR update issue.

In the past we've talked about things like renewables and the others; I would strongly suggest putting that up for consideration as an integrated efficiency discussion. Because it's not just the public power community; it's not just the investor-owned utilities, it's bringing PUC insight into that, as well. In addition to the building standards. And making sure not only we're talking from the same timelines, but also the same benchmarks.

And so it's not as important for us to calculate things exactly the same way, because we have our different models that we need to address for a number of reasons. But it's a matter of making sure that we're not talking about vintage 2004/2006, let's make an adjustment from 2004 to 2006 to bring certain numbers up.

Let's make sure we have efficiency savings that have been recorded, which may not be reflected in cost effective targets, because some of the programs, quite honestly, may not be cost effective. But there's reasons for having those programs in place, whether it be at the local level or whatnot.

So that's some of our suggestions. Again, we do appreciate the ability to be able to continue our dialogue with staff. I'm sure we'll be spending the next two years or three years working through this and getting insights on both ends.

PRESIDING MEMBER PFANNENSTIEL: Gary, do we have Eric Wanless on the phone?

MR. KLEIN: We'll check.

PRESIDING MEMBER PFANNENSTIEL: To participate in this panel.

MR. WANLESS: Yeah, I'm here.

PRESIDING MEMBER PFANNENSTIEL: Were you going to provide comments as a panel member, Eric?

MR. WANLESS: Yes, I had some brief comments or notes on our analysis that we performed. And then I have comments in response to the questions that were posed on the agenda to the panel.

PRESIDING MEMBER PFANNENSTIEL: Okay, go ahead.

MR. WANLESS: All right. I'd like to start by just briefly summarizing some of the findings from our review of the POUs proposed target, and then I'll address the four questions.

So we conducted analysis of the POU targets based on CMUA's report and other POU findings, the filings. And we circulated our analysis around and hopefully there are some copies available at the workshop today.

Very briefly, we used three metrics in our evaluation in regards to the proposed target. Keeping it short I will just touch on this briefly. One of them was 2016 energy efficiency target in terms of megawatt hours as a percentage of the forecast 2016 energy use.

Second one was the 2016 energy efficiency target as a percentage of the economic energy efficiency potential reported by the POUs.

And then the third metric we used was the average annual energy efficiency additions as a percentage of increase from 2006 annual addition.

And in general we found from analysis that the draft targets proposed by the POUs are reasonable and meet AB-2021's requirement to capture all -- excuse me, to capture all energy efficient savings that are cost effective, reliable and feasible. And we again commend the POUs overall for a significant increase in the energy savings that their draft targets represent.

Based on our analysis there were several utilities that did very well in at least two of the comparison metrics we evaluated. And we'd like to recommend the Commission commend the POUs for setting aggressive energy efficient targets. I know that there's been much discussion today about the feasibility and ramp-up rates. I think it's still important to commend the utilities that are aggressively targeting energy efficiency. These utilities are listed in the report.

At the same time there's several utilities in our analysis that didn't fare as well in our evaluation metric. We'd like to recommend that the Commission work with these utilities specifically to further understand the rationale behind their target-setting process. To truly understand whether or not they've identified all potentially achievable cost effective energy savings and the targets.

And just on this note, it's important to have a caveat that some of the utilities that are on that list and our report may have legitimate reasons for their comparatively low energy savings targets. But at this point in time we don't believe that there's been sufficient information presented to evaluate whether, to make that determination.

In terms of the data that was reported we've been working with NCPA on this. We'd also like to urge the Commission to require that the POUs that changed RMI's default assumptions submit their actual -- assumption. In particular, further avoided costs, discount rates and the basis for their changing these assumptions.

In particular, in our analysis there were several utilities that seemed to choose targets that were significantly less than the 50 percent of the economic potential recommended, or proposed by RMI. And we recommend that the Commission require these particular utilities document the changes that they made to RMI's default assumptions in terms of changing the model to what they thought better fit their service territory.

And looking at these assumptions, we recommend that once the Commission determines that the POUs had a reasonable basis for setting their lower targets, that more aggressive targets be adopted by the Energy Commission.

And we're recommending a 50 percent of economic potential for something -- 1 percent annual energy savings as percent of sales.

That's just a brief summary of our analysis. Are there any questions on that before I jump into the four questions?

PRESIDING MEMBER PFANNENSTIEL: No, no questions.

MR. WANLESS: All right. So in response to the questions that were posed in the agenda, the first question in terms of reactions to the proposed savings goals. We'd like to urge the Commission to set a statewide energy savings target based on the sum of the IOU and POU targets, not based on the percent of economic potential.

We believe that the statewide target should set a level that requires the rest of the programs by the utilities, but we need to make sure that they're realistic. And it's good to see that some of the work that Mike's been doing in terms of valuation -- the utilities ramp-up rates that's being done.

As I noted earlier in just kind of the overall summary of our analysis, we urge the Commission to use the target of 50 percent of economic potential or 1 percent of the annual energy savings as percent of sales for each POU that's proposed targets are significantly less than 50 percent of economic potential, unless the Commission, of course, determines that those POUs have a reasonable basis for setting their lower targets.

Also, in the staff report with the proposal for 80 percent of economic potential seems to be based in part on what's being called a margin of error. It's not -- the actual program savings that are going to be lower than planned.

And we strongly urge the Commission to

eliminate this margin-of-error target. We're not saying it's not a real thing, but the utilities need to include a margin of error in designing their program portfolios to make sure that they meet the targets. It shouldn't be in the target, itself. Otherwise, what we're doing by including that in there is the targets we set up -- to have utilities fail, which I think is along the lines of what's been spoken to earlier. It's not necessarily in the best interests of having continued programs.

On the statewide savings targets, we recommend that savings targets be assessed and not consumption targets. The law requires of utilities that savings targets and track progress against those targets using independent EM&V. That seems to be the primary measure that the Commission uses.

And while we agree that consumption may be easier to track, there, again, I think as Edison has pointed out, there are many factors that influence consumption that will interfere with the Commission's ability to see savings have been actually achieved. And this primary focus needs to be focused on savings, not consumption reduction.

In terms of increasing the chances that each POU or IOU will meet their savings goals, we think it's very important that the CEC work closely with the utilities, -- the POUs, to help them succeed in ramping up their programs -- target.

And we urge the Commission to continue to work with the POUs to identify ways to assist them. Some of the things that we believe the Commission can provide technical assistance to POUs are things such as energy efficiency programs and portfolio design. Perhaps revising ratemaking processes to remove financial impediments. Helping with future potential studies; helping with program tracking and control; and helping with impact and process evaluation design and contracting.

In terms of improving the target-setting process for the next cycle, and in terms of what goes into the final IEPR report to help this process to be improved upon next time, we urge the Commission to recommend that the POUs conduct a more rigorous assessment of potential when they update their target in three years.

And require as part of that process that POUs provide detail on their methodology for determining the potential as part of the AB-2021's requirement that POUs provide the Commission with a basis for establishing that target, in addition to the targets, themselves.

We also urge the Commission provide clear guidance for improvement in the potential studies the POUs conduct. And this ties into having the Commission set clear expectations for things like what should be used as a cost effectiveness test. And, you know, use the total resource cost that's been used, and we believe that should be continued.

Just setting clear definitions for measured savings and unit cost, and where those should come from. Again, -- I believe was used for most of the input assumptions -- but having clear expectations is important.

Again, on the avoided costs and things like discount rates, those should also be clearly defined by the Commission for the next time that the process goes through.

And also we recommend that the next reports should include an estimate of total net economic benefits under the TRC framework for each utility.

I think that is all I have to say in terms of the questions posed on the panel. In closing I just would like to again thank the effort put forth by all the POUs, NCPA and the Commission Staff. And, again look forward to continuing to work with the Commission and the utilities to make California a national leader on energy efficiency for both the public and private utility sectors. Thank you.

ASSOCIATE MEMBER GEESMAN: Eric, I'm trying to reconcile your commendation of ten of the utilities for their aggressive targets with your comments about Mike's suggested reductions in their ramp rates with your suggestion that, at a minimum, targets be at 50 percent.

Los Angeles Department of Water and Power, for example, proposed 50 percent. You commended them. Mike suggested they be cut back to 38 percent. Which door should I go through?

MR. WANLESS: I think that our recommendation, in terms of the 50 percent number, primarily focused on the utilities that, in our analysis and our view, didn't necessarily set very aggressive targets.

I think in terms of commending the utilities that we believe have set aggressive goals, it's kind of a balancing act that we're walking between insuring that the utilities have reasonable goals that they can succeed in achieving, while at the same time insuring that the utilities are targeting aggressive investment in energy efficiency.

I think in terms of the commendation it's just important that the city boards and the staff and the various POUs that are setting aggressive energy efficiency programs are given note. And I don't think that's necessarily exclusive from having CEC Staff further work with the utilities to make sure that they can successfully achieve those levels of penetration.

I think that, in terms of working with SMUD and LADWP, from my understanding, that those particular POUs, amongst others, believes that they can meet their stated targets. And I just don't want to discourage them from going after aggressive savings.

ASSOCIATE MEMBER GEESMAN: So we should set a 50 percent target for Los Angeles, as Los

Angeles proposed?

MR. WANLESS: I think that at a minimum we would like to see a 50 percent of economic potential be the target. Unless, of course, through working with specific utilities the Commission determines that, indeed, that's too aggressive a target.

ASSOCIATE MEMBER GEESMAN: Okay. Then on Riverside, also one of your commendation utilities, they propose 61.2 percent. Mike suggested cutting them back to 20.4 percent. Do you have a view?

MR. WANLESS: I think, I'm not sure how much staff has been talking directly with Riverside, but I believe that unless staff has been working with the staff at Riverside, that I see no reason that their target should be reduced if they've put together their target at 60 percent, which is not the generic RMI model choice, per se.

So they've put some time and effort into figuring out why they should be at 60 percent instead of say 50 percent. I think that it's not necessarily -- I don't think cutting back their target is needed unless the staff has already been working with them to evaluate that proposal further.

ASSOCIATE MEMBER GEESMAN: Thank you.

MR. KLEIN: Commissioner Geesman, may I ask a follow-on question to that, please?

ASSOCIATE MEMBER GEESMAN: Sure.

MR. KLEIN: One of the things that we could conceivably do is to say you could give us direction, say, we want to make sure that they capture the integral under the curve, no matter how much savings they proposed, whatever that was, say it's 50 percent cost effective over the time period, that's what you want to capture.

One of our concerns is when you see programs go from whatever number they're at now to two and three and four times in a couple of years without supporting resources, it's hard, from our perspective, to see how they're going to actually do that.

It's not to say it's a bad goal, but it's not clear to me how they're going to meet that ramp-up rate.

When I used to work in R&D I'd see program plans that say we're going to get to such-and-such place in such-and-such part of our research in six months, I haven't met a company yet that did it. But having set the goal they had a target to aim for. They always came in slower and they eventually caught up; and usually they finished the contract on time. Not always.

ASSOCIATE MEMBER GEESMAN: What's you experience with locally elected officials lying to state officials?

MR. KLEIN: You have more experience with that than I.

ASSOCIATE MEMBER GEESMAN: And I have a fair amount of experience with private companies doing the same. And I have to tell you, the experience tilts quite heavily toward the private companies more commonly falling into that practice than locally elected officials.

MR. KLEIN: So you would say that -- you're willing to say that if they've proposed a goal we should accept that goal and that path toward that goal?

ASSOCIATE MEMBER GEESMAN: And enforce it vigorously.

MR. KLEIN: And what mechanism do we have for enforcement on this?

ASSOCIATE MEMBER GEESMAN: If they fall

short of the target I would suggest you go to their board meeting when they have clearly fallen short and discuss it with the locally elected officials that adopted the goal.

MR. KLEIN: Can we do the opposite, as well, and commend them when they reach them?

ASSOCIATE MEMBER GEESMAN: I would encourage that, too.

MR. KLEIN: Okay, that's fine. I'm just trying to get clarity as to how we proceed. And this is useful for that, thank you.

PRESIDING MEMBER PFANNENSTIEL: Mike?

MR. MESSENGER: Earlier Commissioner Geesman had expressed some concern that we might be running afoul of the law. And I just wanted to read the law into the record, because from my perspective it's a matter of judgment as opposed to absolutes.

The law says: Each local publicly owned electric utility in procuring energy to serve the load of its retail customers shall first acquire all available energy efficiency and demand reduction resources that are cost effective, reliable, and feasible."

So, in my judgment it all hinges on the

term feasible, not what's all cost effective. And, in fact, this is a change from previous legislation which used to say pursue all cost effective resources.

This legislation now requires this Commission to decide that it's feasible.

And what I'm urging people to do is when you make that decision, to the extent possible get the POUs to make commitments, both in terms of funding and staff resources, to get to that place.

Because staffs that say -- well, for example, we've asked staffs, you're going to be doubling your savings next year, have you asked for a doubling or an increase in staff. And the response comes back no, that's next year's budget.

So from our perspective it's not as likely to count on that happening next year. And to the extent that we can, getting a multi-year commitment increases the probability that they will be able to get to their goal.

MR. WANLESS: Can I just add something? Am I still on the line here?

PRESIDING MEMBER PFANNENSTIEL: Yes, you are. Go ahead.

MR. WANLESS: This is something that

came up earlier and I think it's one of the arenas where the Commission can help out the POUs, and perhaps staff, in going to the boards and working with the POUs to establish multi-year budgets, so that it's not necessarily a year-to-year thing. And working with them to basically figure out how to insure the energy efficiency programs are sustained over the long term.

PRESIDING MEMBER PFANNENSTIEL: Thank you, Eric.

I think this concludes this panel, and I want to thank you all.

We now have an opportunity for other public comment or questions. I have one blue card. And why don't we begin with that. Bitsy Broughton from ICE Energy.

MS. BROUGHTON: Thank you. And I'm sorry it's so late in the afternoon. I'll try and be brief.

I'm Bitsy Broughton with ICE Energy. And we created a ice-storage air conditioning technology that freezes ice at night, storing power at night, and delivers during the peak load of the day.

In doing this, in a recent SCE study it

shows that by creating this energy at night, storing it and producing it during the day, we reduce NOx by 56 percent and CO2 by 40 percent. We also normalize the building load profile, increase reliability of the grid.

In a PG&E study 45 percent of the commercial peak load is from air conditioning. And on a commercial customer's bill 50 percent of their demand charges make up their bill.

So what I would like to address is your question of how to get the market to move. In my background I have worked with national chain accounts for about 12 years now, trying to get them to make changes in the way they use their energy. I've also worked with large utilities around the country.

And it is my experience in all those realms working from a utility's point of view, working with Esource, which was a branch of the Rocky Mountain Institute, and now working with ICE Energy, that the commercial marketplace has done everything they can to pick the low-hanging fruit.

They've changed their lighting; they've put in energy management systems; they've done everything they know how to do.

But to give you a sense of scale, one particular national account that I could name that you would all know pays over 30,000 utility bills a month; 30,000 a month. Fuel oil, electric, water, gas. They don't have time to look in detail and do anything else.

And when they are looking for programs, they are looking for something that is scalable across multiple locations, and across multiple technologies.

And what we have found is that with the technology we're bringing to market today with the ice storage air conditioning we can impact such a large amount of their bill that we get their attention. But we are facing the same problems that Lodi was mentioning, that everyone's mentioned here today, getting them to go ahead and make that buying decision.

I was just on the phone ten minutes ago with a customer who we've been working with for over a year. And they are just at the edge of making that tip and making the decision. They were encouraging me that it's only been a year. In their previous technology the adopted, which was solar, it took them two years to make a decision. So that gives you a sense of timing for these people.

They have a train that's moving down a track. And even though it's not moving in the most efficient way possible, it's moving. And what they make their decisions based on are their customers' buying patterns and their customer comfort. Not on anything else.

And when they make those decisions they make them based on economic benefit. So no matter how green they want to be, no matter how green they put themselves forward to be, what they're buying on is cost and payback to them. Which today is under two years is what they will accept.

Many of them have now moved to a model of wanting to put no money in and take no risk.

So what this means, in brief, to what you're doing here today that we very much appreciate is we encourage the panel and everyone here to keep moving forward with appropriate incentives for technology; as well as tariffs. And that's the place where, in California, we have stumbled or stalled. And the technology alone won't do it without an appropriate tariff.

PG&E recently put a tariff in place that was very rewarding to this technology. And the reason this is important is that incentives alone don't get the payback to the customer. You need to deliver the product. And to deliver the grid stability and to deliver the NOx and CO_2 reductions that you need.

Energy efficiency alone isn't enough. Our technology alone isn't enough for what California's grid needs, together.

But what we're finding is that when we can introduce the ICE Bear product into the marketplace, in conjunction with an appropriate tariff, our customers are waking up again and saying, let me now look at all of my building, let me look at my lighting, let me look at my energy, let me look at my manufacturing process. Let me look at the whole thing, because now it's scalable to me again on a much bigger basis.

And I go back and I hit the energy efficiency measures, as well. We have recently, just in the last two weeks, completed an installation down in Anaheim in which a manufacturing customer did exactly that.

They had given up. They had done some lighting. They put it all aside, they were sort of disgusted, weren't going any further. When we finally got them interested in the ICE Bear, and because of the incentives that Anaheim Utility has put in place, which are very forward-thinking, this customer decided to move forward, not only with our technology, but now they're looking at all of their other equipment and their manufacturing process, as well as going back to their lighting again. All because they could suddenly see a scalable impactful benefit that each one of these small technologies alone didn't provide them.

So I would just like to encourage the bigger picture, a sense of instead of looking at just refrigerators, just lights, look at the whole picture. It does help move the commercial marketplace.

Thank you.

ASSOCIATE MEMBER GEESMAN: Do you lease your equipment?

MS. BROUGHTON: Excuse me?

ASSOCIATE MEMBER GEESMAN: Do you lease your equipment?

MS. BROUGHTON: We can sell the equipment, or there are different companies that will go leasing arrangements.

ASSOCIATE MEMBER GEESMAN: Has that been a popular option among your customers?

MS. BROUGHTON: It has become more popular. Particularly with the national account customers who are more sophisticated in their processes.

Individual customers, one by one, the smaller customers that don't have the same level of sophistication or knowledge, either want to see a very low payback or they want to see some sort of a financing program that helps them pay for it.

But the large sophisticated customers are looking for leasing because they don't want to own it, they don't want to operate it, they don't even want to know it's there. They just want all the benefits from it.

ASSOCIATE MEMBER GEESMAN: Thank you.

MS. BROUGHTON: Um-hum.

PRESIDING MEMBER PFANNENSTIEL: Thank you. Are there other public comment questions? Anybody on the phone?

Thank you, all. Very very useful day. Gary has a final observation.

MR. KLEIN: We actually have two more

slides for you. If you --

(Laughter.)

PRESIDING MEMBER PFANNENSTIEL: Okay.

MR. KLEIN: I hate to tell you that, but it's true. Lynn, could you move them forward, please.

We actually want to put in the record the questions we're asking the Committee for particularly.

We're asking for some clarifications. And we discussed this a little bit ago.

MS. SPEAKER: Is it --

MR. KLEIN: Yes. One back up. There we go. We recognize that this has been an interesting discussion and debate about various possibilities. And so ultimately we're going to need some clarification to staff to decide -- to proceed with the final report that we have to prepare for you and such.

So, what statewide target should the Energy Commission pursue under this mandate?

What specific metric or metrics, and by what specific year, and what should be its basis?

That's been much of the discussion today and we've not obviously reached an agreement that

I can see, although I'm clear we've gotten good direction as to what we're supposed to do.

How should the statewide target be interpreted for individual publicly owned utilities? How should we identify each POU's responsibility for assisting and meeting the statewide target?

And what is the desired way to insure credible implementation path of the annual targets?

How should the IOU goals, as adopted by the PUC, be treated in the statewide-goal-setting process?

Are there any changes to staff's proposed improvements for the next AB-2021 cycle? The things that we've missed that you'd like us to add into that process, we'd like to know.

The next slide. Thank you. We're asking for some authorizations so we can move forward. Authorize staff to implement the recommendations on improving the next AB-2021 planning cycle. And as part of that we're looking for clear authorization to proceed with developing a tracking system based on independent EM&V.

In our conversations with the POUs this

was a sticking point in our discussions. And some wanted to participate in development of tracking EM&V, and others were very reluctant. If you, as Commissioners, want to make sure that we're tracking the savings, we need to proceed on that level; and we need to make sure that it's clear that the POUs are supposed to participate with us in that process.

Now I'm done. Thank you very much.

PRESIDING MEMBER PFANNENSTIEL: Thank you, Gary. Any concluding comments? Commissioner Geesman?

ASSOCIATE MEMBER GEESMAN: Just that with respect to the first page of your two pages, I would like the benefit of advice from the legal office. I'm happy to get that as a part of the staff recommendation. We've got two staff recommendations today. I would suggest that you have one; that your management actually reviews and signs off on it, says this is the official staff recommendation.

And I would encourage you to seek guidance from the legal office, which can be shared with us, assuring us that it conforms with both AB-2021 and SB-1037.

MR. KLEIN: Thank you.

PRESIDING MEMBER PFANNENSTIEL: Anything further? Thank you, all.

(Whereupon, at 3:58 p.m., the Committee Workshop was adjourned.)

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CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Committee Workshop; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said workshop, nor in any way interested in outcome of said workshop.

IN WITNESS WHEREOF, I have hereunto set my hand this 26th day of September, 2007.